

Ageing and the life course strand

Strand organiser: Professor Athina Vlachantoni (University of Southampton)

9.15am Tuesday 14 September: Social participation, work & retirement

Population ageing in Italy: A study on retirement from 1995 to 2019

Maria Herica La Valle¹, Cecilia Reynaud²; ¹Free University of Bolzano, ²Roma Tre University

Over the last decades, the increase in the percentage of the elderly people – who require more health assistance and need monetary resources that cannot be earned through employment – has been affecting societies in economic, social, and demographic terms thus representing a challenge for public policy. Our study focuses on Italy and investigates retirement as the main source of income for the elderly. In particular, we use the INPS (Italian National Welfare Institute) database and select people aged 60 and over from 1995 to 2019. The aim is to estimate the evolution of the state pension over time and across geographic areas of the country, with a particular stress on gender, by conducting both an inter and an intra generational analysis. As a first step, we split the sample into two groups, i.e. those who receive a pension and those who do not. Preliminary results show changes over time and by broad area in the ratio retired/elderly and suggest exploring the old population not just as a whole but as a group of individuals exhibiting uneven survival and/or poverty thresholds according to the type of pension (e.g. contributory, social and survivor's) they receive.

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Too old to work-says who?: Translocational gendered ageing and South Asian British Muslim women in the UK

Sajja Ferdous; School of Social Sciences, The University of Manchester

This research explored the later life work attitudes and labour market behaviour of South Asian British Muslim older women living in Greater Manchester in the UK. It specifically addressed the research question of, “what are the attitudes and behaviour of South Asian British Muslim older women towards wage work and in the Greater Manchester labour market?”. The study was conducted against the backdrop of an ageing workforce, a high-level of persistent unemployment and economic inactivity of this ethnic minority female group and extended working lives policies in the UK. A total of 30 in-depth semi-structured interviews were conducted with South Asian British Muslim women living in Greater Manchester aged between 50-66 and the analytical approach involved a combined lens of intersectionality and the life course method. The findings showed that the group's wage work attitudes and labour market behaviour were characterised by a lack of enthusiasm and motivation – particularly, they did not hold positive perceptions of the UK labour market and its extended working lives policies. The findings also indicated that such attitudes were likely to remain relatively unchanged in the foreseeable future, where more older workers, particularly older female workers, are expected to join/stay in the UK labour market. Several socio-cultural factors and lifelong cumulative inequalities played crucial roles in shaping their work trajectories throughout their lives. The study provides timely insights into this under-explored group's labour market behaviour and work attitudes which have implications for gender, migration, ageing and employment research, and inclusive policymaking of extended working lives.

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Social participation in widowhood: Evidence from a 12-year panel

Jeremy Lim; National University of Singapore

Objectives: Social participation is important to the quality of life of older adults, especially widows. This is the first study to test whether older widows' formal and informal social participation rises or declines using multiple panel observations pre- and post-bereavement. The paper also tests the moderating effects of economic and marital satisfaction, depression, and husband's illness before death on these trends. Methods:

Seven waves of the Korean Longitudinal Study of Ageing are used to track changes in four measures of social participation – meeting and contacting a child, meeting friends, and attending a formal group. A comparison group of married individuals, weighted with coarsened exact matching, controls for age and time trends. Mixed model regressions estimate the effects of widowhood over time. Results: Social participation shows little change before bereavement and rises significantly after bereavement for all measures. However, frequencies of meeting and contacting a child peak and decline early post-bereavement, while meeting friends and attending a group show delayed but long-lasting effects. Moderators economic and marital satisfaction are positively associated with overall social participation levels, but negatively associated with social participation post-bereavement. Discussion: Increased social participation after bereavement underscores the resilience of widows and the social support they receive. However, differences in timing suggest that contact with children is gradually substituted with extra-familial relationships in the long run. The negative moderating roles of economic and marital satisfaction point to a paradox where seemingly well-off individuals may be more vulnerable to widowhood.

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Who marries whom: Intergenerational mobility and assortative mating in Mexico
Nancy Aireth Daza Báez; University College London

In this paper I analyse intergenerational earnings mobility for Mexico, with a focus on the role of gender and marital status using the Mexican Social Mobility Survey (EMOVI-2011). I find that married daughters experience greater mobility than sons, with respect to both own and family (combined) earnings; and that assortative mating plays an important role, especially for daughters. On average, 10% to 43% of the covariance between parents and own permanent family earnings can be attributed to the person to whom the offspring is married. This effect is mainly driven by strong correlations of partners with human capital. Unlike sons, the estimated intergenerational persistence of earnings is significantly higher for single daughters than for married daughters. This suggests differences in the labour supply of daughters and sons by marital status, related to actual earnings of married daughters being weakly tied to their capabilities and more to the household's decision of allocation of time.

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Midday Tuesday 14 September: Understanding wellbeing & social care preferences across the life course (75-minute session)

Is age 70 the new age 65? A prospective measure of ageing
Ngaira Coombs, Angele Storey, Rose Giddings; Office for National Statistics

Is age 70 the new age 65? Population ageing is traditionally measured as an increase in the numbers and proportion of older people in the population. On these measures the UK population has aged over time and is projected to continue to age. Some researchers, most notably Sergei Scherbov and Warren Sanderson, have suggested that instead of taking a fixed chronological age as the start of older age, a better alternative would be to set the threshold at a fixed remaining life expectancy (RLE) of 15 years, a prospective measure of ageing. We found that in terms of prospective ages (RLE), a man aged 70 years today is equivalent to a man aged 65 years in 1997 and a woman aged 70 years is equivalent to a woman aged 65 years in 1981. But is age 70 really the new age 65? Previous research has suggested that some aspects of health in later life are more closely related to the number of years left to live than the number of years already lived. We go on to explore whether men and women aged 70 today have similar levels of health as men and women with equivalent prospective ages in the past looking at two available measures, general health and limiting long-term illness. Initial findings indicate that age 70 also appears to be the new age 65 (or even younger) in terms of health, (however findings are based on overall data trends and there are large fluctuations in reported health status at different ages). Further, while health status by chronological age has improved over time, health status at

prospective ages shows more stability and so prospective measures of ageing are arguably more appropriate in planning for health and social care needs and demand than traditional measures.

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Is happiness really u-shaped in age everywhere? A methodological reconsideration for Europe

David Bartram; University of Leicester

A recent contribution to research on age and well-being (Blanchflower 2021) found that the impact of age on happiness is “u-shaped” virtually everywhere: happiness declines towards middle age and subsequently rises. This paper evaluates that finding for European countries (using European Social Survey data), considering whether it is robust to alternative methodological approaches. In particular, the analysis here excludes control variables that are affected by age (noting that those variable are not themselves antecedents of age) and uses data from the entire adult age range (rather than restricting the analysis to respondents younger than 70). I also explore the relationship via models that do not impose a quadratic functional form; using variables for ranges of age, I can then also include a control for cohort. The paper shows that these alternate approaches do not lead us to perceive a u-shape “everywhere”; u-shapes are evident for some countries but by no means for all (or even most). I argue that this sort of comparative evaluation is essential: if we want to resolve a long-running empirical debate we must extend the analysis beyond one analytical approach and investigate whether results are robust to alternative specifications.

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Attitudes and preferences towards future old-age support amongst tomorrow’s elders in China

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BACKGROUND: The life course experiences of those born in China from the late 1950s to early 1970s have been very different to those of their predecessors; they may not be able to, or wish to, rely on their family for support in later life in the future. **OBJECTIVE;** We investigated the attitudes towards current provision of old-age support, and preferences for their future old-age living arrangements amongst individuals aged 40– 55, representing the next generation of China’s older people. **METHOD:** Using data from the 2013 Chinese Household Finance Survey, we conducted multi-variate analyses focussed on understanding the roles of family structure, socioeconomic status, and current patterns of intergenerational support in shaping attitudes and preferences towards old-age support among today’s mid-lifers. **RESULTS:** Attitudes and preferences towards old-age support are shaped by relations within the family, which in turn are affected by broader historical and contemporary social, economic, and cultural conditions. Specifically, the number of children, having a son, hukou status, and education influence people’s attitudes and preferences. The results also point to important gender and cohort differences. One unexpected finding is that around a quarter of Chinese mid-life women living in urban areas and with just one adult child are actively considering the option of institutional care for their own old age, highlighting that social norms around care in later life are shifting. **CONTRIBUTIONS:** This study advances understanding of how decisions in old-age care relate to individuals’ life course and to changing family structures in China.

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Factors associated with loneliness among Europeans aged 50 or higher

Georgia Verropoulou, Eleni Serafetinidou; Department of Statistics & Insurance Science, University of Piraeus

Loneliness is considered a major factor influencing well-being, especially among older individuals. This latent concept is usually measured by the UCLA Loneliness Scale, which includes three aspects of loneliness: lack of companionship, feeling left out and feeling isolated. A similar scale has been employed in the wave 6 questionnaire of the Survey of Health, Aging and Retirement in Europe (SHARE). The scale includes four dimensions of loneliness, the three included in the UCLA scale plus how often one feels lonely. Hence, the main purpose of the present study is to assess the effect of demographic, socioeconomic and health related

factors on these four aspects of loneliness among 64,670 persons aged 50 or higher, resident in several European countries in 2015, using data from the SHARE survey. The methods of analysis involve use of generalized logistic regression models for ordinal dependent variables. The findings indicate that increasing age is related to higher chances of feeling lonely, left out and a lack of companionship whereas having more children has the opposite effect. Contrary to expectation, educational attainment does not exhibit a protective effect. Greater life satisfaction is associated with lower chances of experiencing all aspects of loneliness. Regarding mental and physical health, poor cognitive function, as reflected in poor memory, reading skills and orientation in time, as well as activity restrictions, measured by the GALI indicator, have a strong association with most loneliness items.

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Racial disparities in ageing in the USA: A prospective approach

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Rather than taking 60 or 65 as a 'constant' 'boundary' to old age; adopting a 'prospective' measure encompasses dynamic changes in health and mortality between and within societies over time. This approach of fixing the boundary to old age by remaining life expectancy [RLE], as devised by Sanderson and Scherbov, has been influential in producing a more realistic micro- and macro-level view of ageing and, in particular, in the development of better means of comparing societies and population groups which, in turn, can better shape the policy agenda. In this paper, we produce, for the first time, prospective measures of ageing by race for the United States. Our preliminary results show a significant difference in the 'prospective old age threshold'. The findings will demonstrate the extent to which the USA is 'ageing equally' and, as such, will contribute to the policy debate over differential needs and resource allocation.

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9.00am Wednesday 15 September: Effects of chronic conditions, comorbidities & multi-morbidity on elderly persons

Identifying non-communicable disease multimorbidity patterns and associated factors among older adults: Evidence from the Longitudinal Ageing Study in India, 2020

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In the absence of adequate nationally representative empirical evidence on multimorbidity, the existing health care delivery system is based on a single disease model, which is not adequately oriented to cater to the growing needs of the multimorbid older adult population in India. The present study identifies recurrent multimorbidity patterns and further examines the linkages between socio-economic, demographic, lifestyle, and anthropometric correlates of these identified patterns. The study used data on 58,975 older adults from the Longitudinal Ageing Study in India, 2020. The study incorporated a list of sixteen non-communicable chronic diseases to identify recurrent patterns using latent class analysis. Model fit indices were employed to identify the optimal number of disease clusters, which were labelled on the basis of computed item-response probabilities. The study applied multinomial regression models to assess the association between identified disease patterns with unit-level characteristics. The present study demonstrates that older adults can be segmented into five disease patterns, namely 'hypertensive diabetics (23.7%)', 'gastrointestinal disorders (5.7%)', 'metabolic disorders (2.7%)', 'hypertension-bones-and-joints disorders-gastrointestinal disorders' (2.1%), and 'complex cardio metabolic disorders' (1.4%'. Socio-economic, demographic, lifestyle, and anthropometric factors are significantly associated with one or more identified disease clusters. These findings can assist physicians and policymakers in devising treatment and management strategies for individuals belonging to explicit disease clusters so that they do not accumulate additional chronic conditions. Thus, advocating policies to reorganise the existing healthcare services to accommodate older adults' rising

requirements. Alternatively, targeted interventions in the form of equitable prevention strategies are essential to reduce the burden on the country's high-risk 'Relatively Healthy' older adult population.

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The association between exposure to air pollution and multimorbidity among middle-aged and older adults in China

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Background: Air pollution is associated with the prevalence of chronic diseases; however, the association between exposure to air pollution and multimorbidity is unclear. Objectives: We investigate the associations between PM2.5 exposure and the multimorbidity, specifically patterns and presence among middle-aged and older adults in China. Methods: Data are from the China Health and Retirement Longitudinal Study (2011-2015), linked with a remotely sensed PM2.5 records (2000-2015) in China at city level. Exposure to PM2.5 is measured by the cumulative average concentration of PM2.5 from March 2000 to the interview date. Multimorbidity is measured by a disease count approach including 14 self-rated chronic diseases. We use latent class analysis (LCA) to check the associations between PM2.5 exposure and multimorbidity patterns but estimate the associations between PM2.5 exposure and the presence of multimorbidity by growth curve modelling (GCM). Results: A total of 19,098 respondents (45,788 observations) aged 45-85 years old are analysed in this study. Four latent classes are estimated using LCA models, consisting of three multimorbidity patterns (respiratory, musculoskeletal, cardio-metabolic), and one relatively healthy pattern. Our LCA findings show that increased exposure to PM2.5 is associated with higher prevalence of any of three multimorbidity patterns, especially with respiratory or cardio-metabolic patterns. The GCM approach shows there is a U-shaped association between PM2.5 exposure and multimorbidity, indicating PM2.5 exposure is positively associated with the prevalence of multimorbidity when the concentration of PM2.5 exposure is higher than 53.3 $\mu\text{g}/\text{m}^3$. Further analysis for the trajectories of multimorbidity shows the effects of PM2.5 exposure might be more substantial across ageing process. Conclusions: Our study finds that cumulative exposure to PM2.5 over a long-term period is associated with multimorbidity patterns and shows there is a U-shaped association between PM2.5 exposure and the prevalence of multimorbidity. However, more work is necessary to clarify the causal mechanism of these associations.

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Understanding sociodemographic inequalities in rapidly developing multimorbidity trajectories in Scotland: an application of sequence analysis

Genevieve Cezard¹, Frank Sullivan², Katy Keenan¹; ¹Population & Health Research Group, School of Geography and Sustainable Development, University of St Andrews; ² School of Medicine, University of St Andrews

Researching multimorbidity, the co-existence of at least two chronic conditions, remains mostly cross-sectional ignoring how multimorbidity develops and in which order diseases occur. We aim to understand the sequencing of chronic diseases that lead to multimorbidity and the socio-demographic determinants of typical disease trajectories. We focused on three commonly occurring diseases: Diabetes, Cardiovascular disease (CVD), and Cancer. We used Scottish Longitudinal Study data linking the Scottish census 2001 to hospitalisation, disease registries and mortality records. We selected those aged 40 years and over with no previous record of the three diseases at baseline and who developed at least two diseases within 10 years (N=4,800). Sequence analysis, hierarchical cluster analysis, and multinomial logistic regressions allowed us to identify typical disease trajectories and characterise their socio-demographic profile. Our cohort of individuals who rapidly transitioned to multimorbidity over 10 years were selected, typically older and living in more deprived areas. We found six typical trajectories: quick transition to multimorbidity and death, cancer start ¹transition to multimorbidity, fast transition to diabetes and CVD, CVD start followed by cancer development. Those who quickly transitioned to multimorbidity and death were the most vulnerable e.g. older, less educated, and more likely to live in more deprived areas. Sequence analysis has the potential to deepen our understanding of disease trajectories when we are considering a few key diseases. However, when considering complex constellations, other methods, such as machine learning, may be more appropriate.

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Age-period-cohort effects in multimorbidity: Evidence from the English Longitudinal Study of Ageing data
Kamila Kolpashnikova¹, Sara Zella²; ¹Department of Sociology, University of Oxford; ²Oxford Institute of Population Ageing, University of Oxford

This paper explores the age-period-cohort (APC) effects in multimorbidity using the intrinsic estimator models, which allow avoiding the strong assumptions present in the Bell's variant of hierarchical APC (HAPC) models more common in gerontological research. The results uncover the discrepancy of the HAPC-estimated cohort effects when they are disentangled from the period effects in the analysis of outcomes where both effects present, such as in the analysis of multimorbidity. We use the English Longitudinal Study of Ageing. In contrast with the previous results, the intrinsic estimator models show that cohort effects on multimorbidity are decreasing and stabilising in the recent cohorts of the elderly English, among both women and men. Conversely, there are positive and increasing period effects, reflecting the technological advances in the detection and diagnosis of chronic diseases.

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3.15pm: Wednesday 15 September: The effect of caregiving across the life course

Is caregiving bad for health? Trajectories of health and well-being among UK caregivers for parents or parents in law taking account of initial health status

Pilar Zueras, Emily Grundy; Institute for Social and Economic Research, University of Essex

Previous research on the impacts of caregiving on subjective wellbeing and health report conflicting evidence. Numerous studies indicate that caregivers report poorer mental and physical health and more loneliness than non-caregivers. However, other research has found lower mortality among caregivers compared with non-caregivers and suggested that there may be a 'healthy carer' effect, i.e. health related selection into caregiving as well as psychological and physical health benefits - as well as strains- of undertaking a socially valued role. It has been pointed out that many studies of health effects of caregiving are based on convenience samples or lack robust measures of health (Roth et al 2015). We use longitudinal data from the large, nationally representative UK Household Longitudinal Survey (UKHLS) to analyse changes in indicators of health and well-being among caregivers and non-caregivers over a five year follow-up period using subjective well-being variables and self-reported health indicators, such as the Physical and Mental Components of the SF-12 (PCS-12 and MCS-12). Importantly we control for initial health status using objective data on grip strength, lung function, obesity, hypertension and medication intake collected in nurse assessments in Waves 2-3 of the survey. We focus on caregivers for parents or parents-in-law (among those with this relative alive) and take account of other socio-demographic characteristics and availability of various supports. Unravelling these complex associations is important to be able to identify possible support mechanisms for those caregivers in most need and to re-evaluate impacts of caregiving on health.

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Stuck in the middle? The effect of caring for one's parents on grandchild care provision

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Reductions in public spending on family services across Europe are leading to growing demands on middle-aged and older adults in four-generation families to provide care for both their parents and grandchildren. Yet, little is known about whether the relationship between care for parents and grandchildren is complementary or competitive, and whether involvement in care for parents causally reduces grandchild care provision. Our study is based on adults aged 50–69 in four-generation families from Waves 1–7 of the Survey of Health, Ageing and Retirement in Europe. Using multilevel random-effects, fixed-effects, and instrumental variable fixed-effects models we investigate the relationship between care for sick or disabled parents and caring for

young grandchildren among individuals in four-generation families. We find parental care and grandchild care to be complementary, both between and within individuals. However, our results reveal no direct causal effect of parental care on grandchild care provision.

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Grandchild caring and late-life depression: A comparative longitudinal study in China and Europe

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The impact of grandparenting on the grandparents' health has been relatively under-studied, and international comparisons can provide useful lessons for grandparents and policymakers. This study examined country differences in the effects of grandchild care provision on the grandparents' depression in Italy, Spain, China, Denmark and Sweden using the longitudinal Harmonised CHARLS and SHARE data collected between 2010-5. Controlling for the grandparents' depression in 2011, grandparents providing non-intensive grandparental care in China, Sweden and Denmark in 2013 were less likely to report depression in 2015 compared to those who did not provide any care in 2013. Such effects were more pronounced among grandmothers compared to grandfathers. The results indicate that the effects of grandchild caring on the grandparents' depression in China was comparable to Denmark and Sweden. Future research can focus on identifying the causal pathways between grandparenting and wellbeing, and the implications of such pathways for older persons' wellbeing worldwide.

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The association between caregiving duration and later loneliness in the English Longitudinal Study of Ageing

Lisa Davison; University of Stirling

Largely undetected within the general population, informal caregivers are an expanding subgroup who play an essential role in supporting health and social care systems. During the initial lockdown period in March 2020, following the coronavirus (SARS-CoV-2) outbreak, it was estimated that the number of caregivers across the UK increased by almost 50% from 9.1million to 13.6million. It is widely acknowledged that caregiving has negative consequences on mental health and wellbeing, as such over 81% of caregivers have reported feeling lonely as a result of their caregiving role. However, there is a substantial lack of longitudinal research carried out in caregiving populations, thus the lasting effects of care on loneliness are unclear. Using data from the English Longitudinal Study of Ageing, the aims of this research were to investigate the association between specific longitudinal elements of care provision, such as the duration of care, and the loneliness experienced by caregivers. The results of the binary logistic regression analyses indicated that caregivers providing long-term care demonstrated higher odds of reporting loneliness than short-term caregivers. Alternatively, loneliness odds for intermittent caregivers were not significantly different to that of short-term caregivers. This suggests that the association between caregiving and loneliness is linked to continuing care provision over a prolonged period, rather than short-term or multiple caregiving episodes. By understanding the specific elements of care provision which contribute towards higher risk of ongoing loneliness, this can aid the development of more targeted policies and more effective support services for informal caregivers.

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