

## Posters

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**18:30 – 20:00 Monday 9 October**

### **A Nexus of Family structure and Women's decision making in South Asian Countries: Using Simultaneous Equation Approach**

**Ali Abbas Rizvi - PhD Student, International Institute for Population Sciences, Mumbai, Abhishek Singh - Professor, Department of Public Health & Mortality Studies, International Institute for Population Sciences; Head, Center of Demography of Gender, IIPS, Mumbai, -**

#### Introduction

Family structure plays a pivotal role in shaping women's autonomy and decision-making within households. This study investigates the impact of nuclear families on women's autonomy in household decision-making across four South Asian countries: India, Nepal, Bangladesh, and Pakistan.

#### Methods

Utilizing data from the most recent Demographic and Health Surveys (DHS) conducted in the aforementioned countries, this study explores the household structure and women's decision-making and its complex interplay. Descriptive statistics and multivariate regression models were used to examine the association between family structure and women's decision-making autonomy. For the simultaneous joint estimation approach, we employ a seemingly unrelated and recursive bi-probit model, with and without control for endogeneity.

#### Results

The results showed that the majority of women of reproductive age in South Asia cannot make health decisions alone. Only 11% from India, 47% from Nepal, 60% from Bangladesh, and 33% from Pakistan were involved in household decision-making. The non-zero correlation coefficient from the result shows that household structure does affect women's decision-making, indicating intra-household negotiations; notably, women in nuclear households in India and Nepal exhibit a substantial increase in decision-making autonomy by 38% and 40%, respectively, while experiencing a decline of 14% in Bangladesh and 12% in Pakistan.

#### Discussion

The findings highlight the complex relationship between household structure and women's decision-making. Gender equality initiatives are vital in South Asia. Moreover, recognizing the influence of family structure and extended kin is essential for fostering the inclusive development of women in the region.

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### **Disparities in Childhood Vaccination in India: Insights from the National Family Health Survey (NFHS-5, 2019-21) - Shruti Acharya - University of Queensland & Indian Institute of Technology; Saeed Akhlaghpour - University of Queensland; Sunil Venaik - University of Queensland & Indian Institute of Technology**

Childhood vaccination is a pivotal public health intervention, yet millions of children globally, especially in low- and middle-income countries (LMICs), remain under-vaccinated. India continues to have substantial vaccination coverage disparities despite concerted efforts such as the Universal Immunization Program (UIP) and Mission Indradhanush (MI). This study examines determinants of childhood non-vaccination and partial vaccination in India among children aged 12-23 months. Children's vaccination status is categorized into three categories based on their receipt of UIP-recommended vaccines: fully vaccinated (received all vaccines), partially vaccinated (received some, but not all vaccines), and non-vaccinated (received none of the vaccines). The study includes a sample of 43,436 children aged 12-23 months from the fifth round of India's National Family Health Survey (NFHS-5). Employing multinomial logistic regression, the odds of non-vaccination and partial vaccination compared with full vaccination are assessed. Analytic determinants used

in this study include variables related to the child, mother, and household, with a specific focus on examining the influence of healthcare accessibility and utilization on vaccination status. At the national level, 76.4%, 20%, and 3.6% of children are fully vaccinated, partially vaccinated, and non-vaccinated, respectively. However, our analysis reveals significant regional disparities in the prevalence of non-vaccinated and partially vaccinated children across India. Healthcare utilization factors, child birth order, maternal education, age at first birth, household income, and religion are significant predictors of vaccination status. The findings underscore the need for targeted interventions addressing socio-demographic disparities in healthcare access and utilization to improve childhood vaccination coverage in India.

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#### **Fertility determinants across migrant generations in the UK**

**Jiseon Baek - University of St Andrews, Hill Kulu - University of St Andrews, Sarah Christison - University of St Andrews, Francesca Fiori - University of Strathclyde**

Recent research has explored the childbearing behaviour of immigrants and the factors influencing fertility rates across various European countries. However, when examining these factors, studies often overlook the interacting influences of these factors. For instance, employment status may impact the decision to have a child. To address this complexity, this study employs multilevel multiprocess modelling to account for multiple related processes simultaneously. The analysis aims to investigate fertility rates and the factors affecting immigrants and their descendants from various migrant groups in the UK. Individual-level longitudinal data from the UK Household Longitudinal Study (2009-2021) will be used. The study anticipates that factors will affect fertility rates differently depending on the migrant group, generation, and birth parity, highlighting distinct patterns and determinants that vary across migrant generations.

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#### **Key Drivers of Disability in India: Evidence from Indian DHS (2019-21)**

**S.K Singh, Aditi & Bharti Singh - International Institute for Population Sciences**

Understanding the socioeconomic drivers and regional variation in the prevalence of disability is significant for policies and programs for the well-being persons with special needs. The paper is an attempt to study the prevalence of disability, associated predictors, and spatial dependence based on data collected in the fifth round of Indian DHS, carried out in 707 districts across 36 States/UTs in 2019–21. Moran's I statistics and bivariate local spatial auto-correlation (Bi-LISA) were used to understand spatial dependence and clustering of disability in India. The Spatial-Error model was used to deep drive into key drivers of disability. Findings portray that the disability prevalence was higher amongst males, older adults, Scheduled Tribes, alcoholics and people who lived in rural areas and lower amongst those with better socioeconomic status. The study also found that the odds of men being disabled were significantly higher than women. The Ordinary Least Square and Spatial-Error regression models corroborate the spatial dependence of disability, which demands differential approaches of interventions to address the challenges faced by people with special needs. These findings may be useful for the efficiency and effectiveness of various interventions to meet the needs of disabled people and facilitate a dignified life for them.

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#### **Mapping subnational gender gaps in internet and mobile adoption using social media data**

**Casey Breen - University of Oxford, Masoomali Fatehkhia - Qatar Computing Research Institute, Jiani Yan - University of Oxford**

The digital revolution has ushered in many societal and economic benefits. Yet access to digital technologies such as mobile phones and internet remains highly unequal, especially by gender in the context of low- and middle-income countries. Reliable, quantitative estimates of digital gender inequalities are essential for monitoring gaps and implementing targeted interventions within the global sustainable development

goals. While national-level estimates are available for many countries, subnational estimates are critical because internet and mobile phone adoption vary substantially within countries. We develop estimates of internet and mobile adoption by gender and digital gender gaps at the subnational level for 874 regions in 55

countries across the African continent, a context where digital penetration is low and national-level gender gaps disfavouring women are large. We construct these estimates by applying machine-learning algorithms to Facebook user counts, geospatial data, and population composition data. We calibrate and assess the performance of these algorithms using “ground truth” data from nationally-representative household survey data from 24 countries in Africa. Our results reveal striking disparities in access to mobile and internet technologies between and within countries, with implications for policy formulation and infrastructure investment.

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### **Changes in fertility rate by birth order through the pandemic years**

**Marion Burkimsher - University of Lausanne**

As the pandemic started to spread around the globe early in 2020, and lockdowns became the usual course of action for governments to take, there were diverging forecasts about the impact on fertility rates. The popular press tended towards predicting a baby boom caused by young couples spending extended time together. In parallel demographers warned that any major disruption injects uncertainty in life planning and tends to lead to a baby bust.

What actually happened? In 2020 there was little change in the TFRs, the usual pattern being a continued downward trend which started around 2010. Then, when the TFRs for 2021 were released, a sharp upturn was observed. Why?

Data from a dozen countries (European, USA and Japan) in the Human Fertility Database was analysed to decompose the TFR by birth order. This showed that the 2021 upturn was driven by second and higher order births. Couples used the expanded support to grow their families but were cautious about starting a family.

Finalised TFRs for 2022 have not been widely published, but where they have been, a renewed slump has been seen spread across all birth orders.

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### **So you want to work with Scottish Census data?**

**Liam Cavin - National Records of Scotland**

If you are a researcher considering using Scotland’s census data in your work, there are a range of options for you. This poster will describe:

- Our plans for the release of 2022 Census data
- Some of the potential uses of the rich socio-economic information in Scotland’s Census
- Data sources available to everyone via the Scotland’s Census website
- Microdata products available for use via the ONS and UK Data Service websites
- Custom projects linking census microdata extracts to administrative data sources – how to plan your project and who to speak to

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### **Securing tomorrow’s health: A study of the causal impact of maternal health investments on child health outcomes.**

**Titus Chowdhury & Souvik Banerjee - Department of Economics, Indian Institute of Technology Bombay**

Maternal and child healthcare remains a major challenge to the global public health system, especially in developing countries. Maternal healthcare in the form of antenatal and neonatal care determines the well-being of the child in the formative years as well as the long-term productive capacity of the child. In India, particularly, maternal health care varies largely with the socio-economic and demographic status of the mothers and their subjective health investments in their children especially in their infancy and formative years. In this study, we examine the relationship between the child’s health inputs (like prenatal care

received by the mother during pregnancy and institutional delivery of the child) and child anthropometric health outcomes (like stunting and underweight) using pooled cross-sectional data from the Indian National Family Health Survey (NFHS) of 2015-16 and 2019-21. We account for the endogeneity of child health inputs using an instrumental variable approach and non-random selection into anthropometric child health outcome measurements using the Sartori (2003) estimator, which does not rely on the exclusion restriction in the two-step Heckman method for addressing self-selection and works well in our context. The estimation results show that not accounting for endogeneity and self-selection in the use of health inputs results in an underestimation of the effect of health inputs on child health outcomes. We also explore some of the potential mechanisms like the “Safe Motherhood” intervention program - “Janani Suraksha Yojana” through which the child health inputs can affect child health outcomes, particularly in the economically backward states of India.

JEL classification: I12; I14; I15; C31; C26

KEYWORDS: Health behaviour, health inputs, child health outcome, prenatal care, hospital delivery

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### **Census Perú – 2017: A case study of a methodologically, logistically, and ethically questionable census**

**Ignacio Franco Vega**

Objectives: To use the 2017 Peruvian census to illustrate how shortcomings in planning, methodology, and logistics can impact the quality of information, its ethical use, and the stability of a country's authorities.

Methods: I searched three newspapers for publications about the census. Additionally, I reviewed the National Institute of Statistics (INEI) press notes.

I found 373 articles and analysed their content using conventional content analysis.

Results: I used a structure of 34 micro-categories organised around 6 macro-categories.

Analysis: Initial coverage was positive. Immediately before the census, newspapers instructed readers on the data collection procedure.

The day after the census, the coverage turned negative. The main issues were data collection delays, a (perceived) high omission rate, and numerous cases of physical and sexual violence towards surveyors and respondents. The public outcry was considerable, especially after reports of attempted bribes to the victims.

The interjection of businessmen/politicians accused of multiple crimes as sponsors of the census was also criticised. Especially after they benefited from advertising and the inclusion of questions that provided their companies with strategic information.

All of this would generate a loss of confidence in the data, the resignation of INEI's director, and a drop in the president's approval (months before his resignation).

None of these events are noted on INEI's products/webpage.

Conclusions: Using data from this census implies a series of ethical questions researchers should ask themselves. Despite being public, this information is not easily accessible, especially to those unaware of the context and language.

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### **Investigating the effect of community-level gender norms on the risk of Adolescent Pregnancy in Tanzania Aleena Mery George, Atsumi Hirose, Tom Hone - Imperial College London**

Investigating the effect of community-level gender norms on the risk of Adolescent Pregnancy in Tanzania

Introduction

Despite various initiatives, adolescent pregnancy rates in Tanzania have increased within the last decade, with over a quarter of adolescents becoming pregnant.

Adolescence, a time of neurodevelopment and maturation is a pivotal time of development. Whilst various research has examined individual-level factors, adolescents tend to be more influenced by social and community-level factors. Therefore, this cross-sectional observational study investigated the effect of community-level gender norms around labour, power, and cathexis on the risk of pregnancy in Tanzanian adolescents.

#### Methods

Utilising data from the 2022 Tanzania Demographic and Health Survey, adolescent pregnancy is the outcome variable and exposure variables were operationalised using Connell's theory. These were outlined as the sexual division of power, labour, and cathexis. Sociodemographic variables were identified as confounders. Data analysis, conducted using STATA/BE 18.0, included descriptive, univariate, and multivariate logistic regression models and a two-level random intercept model.

#### Results

Preliminary results from the multivariate and univariate logistic regression models showcase the proportion of men and women justifying violence and the difference in employment rates between the genders are associated with the risk of adolescent pregnancy. Whereas the prevalence of co-wives, educational attainment and household wealth remain to be protective.

#### Discussion

This piece of research aims to guide future policymakers in implementing focused interventions such as education, to challenge gender norm attitudes and reduce the risk of adolescent pregnancy at both community and individual level.

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#### **Personal and social worries associated with the likelihood of having children**

**Kateryna Golovina - University of Helsinki**

Previous studies showed that worries about economic situation and job security are associated with the lower likelihood of having children, but research is scarce whether worries about other issues are also related to having children. Worries about climate change and the protection of the environment, wars, and immigration feature prominently in public discussions, but it is unclear whether they are related to childbearing since they do not directly influence a person's opportunities to have children. Drawing on the German Socio-Economic Panel Study (SOEP), we examined the relationship between personal and social worries with the likelihood of having children. Based on exploratory factor analysis, worries were categorized into social/environment and economy/safety factors. Cox regression models showed that social/environment worries were associated with decreased likelihood of having children, even after adjusting for socio-demographic characteristics, personality traits, and political attitudes. Among specific worries, concerns about environmental protection, climate change, personal health, peace, immigration to Germany, and hostility towards immigrants were linked to decreased likelihood of having children. Worries about economy in general were strongly associated with a reduced probability of becoming a parent among childless individuals, with a 25% lower likelihood for those highly worried about it. Similarly, childless individuals highly worried about climate change exhibit a 16% lower likelihood of parenthood. Our findings highlight the role of other worries in childbearing in addition to economic uncertainty and suggest that fertility decreases when the future is perceived as uncertain.

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#### **Investigating whether religious attendance moderates associations between hearing and mental health**

**Neil Goulding - Bristol Medical School, University of Bristol; Amanda Hall - Bristol Medical School, University of Bristol & Aston University College of Health and Life Sciences; Yasmin Iles-Caven - Bristol Medical School, University of Bristol**

We investigate whether self-reported hearing difficulties are associated with poorer mental health subsequently, and whether any association is moderated by religious attendance.

We used questionnaire data from the Avon Longitudinal Study of Parents and Children (ALSPAC), based in southwest England. We will discuss associations between any hearing loss (AHL) in mothers and partners (during pregnancy) and the Edinburgh Postnatal Depression Scale (EPDS), measured when the child was age 8 months, 21 months and 30 years (post-Covid). We performed multivariable logistic regression, adjusting for potential confounders age, sex, ethnicity, chronic health problems, education and socio-economic variables. We then stratified analyses by religious attendance (at least once a month (regular) versus at least once a year/never).

Preliminary results suggest associations between AHL and depression at each timepoint, with odds ratio (OR) = 1.44 (95% CI 1.24-1.67, N=13517, p-value<0.001) at 8 months, OR=1.57 (95% CI 1.36-1.83, N=12284, p-value<0.001) at 21 months and OR=1.31 (95% CI 1.10-1.58, N=5107, p-value=0.003) at 30 years. When stratifying by religious attendance, there was no evidence at P<0.05 of an association between AHL and EPDS at 8 months and 30 years for those with regular attendance (OR=1.15 (95% CI 0.75-1.76, N=1810, p-value=0.52) and 1.36 (95% CI 0.87-2.14, N=934, p-value=0.18), respectively), whereas the association was still evident for those with rare/never religious attendance (OR=1.47 (95% CI 1.24-1.73, N=11245, p-value<0.001) and 1.31 (95% CI 1.07-1.61, N=4031, p-value=0.009), respectively).

Our results suggest that religious attendance may reduce associations between hearing loss and depression.

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**Advancing the landscape of administrative data research for public good: Developing communities of researchers to drive transformative insights about children at risk of poor outcomes**  
**Lucy Griffiths - Swansea University, Saba Mir - UK Research & Innovation, Economic & Social Research Council, Administrative Data Research UK**

The data landscape for children who come into contact with early intervention services or children's social care is patchy. This limits its potential to drive research, practice, and policy that improves children's lives.

In recent years, there has been a lot of progress in making valuable national datasets accessible; however, researchers are still making insufficient use of them. Currently, knowledge is fragmented; there is no clear sense of research gaps or priorities, and where evidence exists, it isn't being effectively used. Researchers in the field also have varying levels of connectivity and support.

Administrative Data Research UK (ADR UK), in collaboration with Foundations, has invested over £700K in piloting a new Community Catalysts approach to address these issues, through developing and advancing the landscape of administrative data research for public good using ADR England flagship data. The co-funders have an existing mission to enable evidence-informed policy and practice. They share a mutual interest in supporting the greater use of linked administrative data and recognise the opportunity to realise its potential by creating greater focus and momentum around this theme.

The ADR England Community Catalyst for Children at Risk of Poor Outcomes is carrying out an ambitious programme of work to develop and address research agendas and priorities, build capacity, and develop a diverse, cross-sector research community. This will provide national strategic leadership for administrative data and research, focusing on children and young people supported by early intervention services or children's social care.

**Childbearing, union formation, labour market and residential mobility amongst young people of migrant origin in France: an application of multistate survival models**  
**Joseph Harrison - University of St Andrews; Hill Kulu - University of St Andrews; Ariane Pailhé - INED**

The interrelationship between fertility, union formation, labour market entry and residential mobility can be complex. Segmented assimilation, structural barriers and subculture formation can also mean that persistent differences in these processes exist between migrant groups, their descendants, and the majority population. This paper focusses on the young adult life courses of those with a migrant background in France. We use the Permanent Demographic Sample between 2010 and 2019 to study the transitions of second-generation migrants and child migrants compared to the native population. We apply multistate survival analysis to observe transitions to increasing parities, union formation and dissolution, labour market entries and exits and tenure transitions. Our results suggest that traditional pathways into adulthood, of labour market entry,

followed by union formation, followed by childbirth are not consistent in timing across origin groups. Those from non-European backgrounds are more likely to never enter the labour market and have much faster transitions to union formation and childbearing. There is also a gendered aspect with exit from the labour market quickly followed by fertility common for women, particularly those from non-western origins. Those who migrated as children are even more likely to have these non-normative pathways. Overall, the results shed further light on the different assimilation trajectories experienced by those of different migrant origin in France and can be indicative of sociocultural differences that are persisting through migrant generations.

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**Who informs childrearing decisions? Cross-cultural variation in sources of information valued by parents**  
**Anushé Hassan - LSHTM; Inijesu Taiwo - Binghamton University; Sarah Caba - Binghamton University;**  
**Rebecca Sear - Brunel University, et al**

Parents' decision-making around childrearing is influenced by numerous sources including family, friends and religious, medical and educational institutions. Previous research rarely accounts for the combined role of these sources in informing childrearing decisions. We collected novel qualitative data in three countries to compare multiple sources of influence within each setting, explore parents' perceptions around childrearing decision-making, and understand how this process varies cross-culturally.

Focus group discussions were conducted separately with mothers and fathers with at least one child under 18 years, in the USA (n=6), The Gambia (n=12) and Malawi (n=16). Standardized question guides asked parents who advised them about their children's health, education, jobs, marriage and reproductive behaviours; and whose advice they considered most valuable. Discussions were conducted in local languages, recorded, translated, and transcribed into English; and thematic analyses conducted using NVivo 13.

Parental decision-making was informed by several distinct sources across the three settings, with different sources of influence considered valuable for different decisions. US mothers had a more individualistic approach to decision-making compared to parents in The Gambia and Malawi. US mothers did not see themselves as involved in children's decisions around work or marriage while parents in Malawi and The Gambia placed weight on guidance from religious leaders, medical providers, neighbours and community elders.

Behaviour change interventions around child, family and community wellbeing can benefit from accounting for the range of sources that influence decision-making, the difference in value placed on different sources, and local variation in whose advice is valued.

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**Grandparental support and women's transition to second and third birth in the UK**  
**Kuoshi Hu, Katherine Keenan & Julia Mikolai, University of St Andrews**

Grandparental support plays an important role in couples' fertility intentions and behaviour due to the increasing cost of raising children in the UK. Previous studies show that about a half of grandparents provide support such as childcare to their adult children, and the support is positively associated with women's likelihood of having a second birth. However, we do not fully understand the effect of grandparental support on fertility. On the one hand, previous studies pay attention to grandparental support in childcare but less attention to financial and other types of support. On the other hand, whether and how grandparental support influences birth intervals is still unknown. This study investigates and compares the patterns of grandparental support on women's transition to second and third birth in the UK. We will conduct an event history analysis using data from the UK Household Longitudinal Study (UKHLS). This research contributes to growing literature on the effect of grandparental support on women's fertility behaviour in high-income countries.

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**Psychological support needs of primary caregivers of children with neurodevelopmental disorders in semi-**

**urban Eastern Uganda - Airi Imamura - Imperial College London / University College Dublin; Ronald Tenywa - School of Social Sciences, Makerere University; Kathryn Jones - Imperial College London**

#### Background

The implementation of Millennium Development Goal 4 achieved substantial progress in child survival, evidenced by a two-thirds reduction in under-five mortality rate across 24 low- and middle-income countries (LMICs). However, the focus on child morbidity remained relatively overlooked until Sustainable Development Goal 3's emergence. Alarming, 43% of children under five in LMICs are at risk of not attaining their full developmental potential. In Eastern Uganda, neurodevelopmental disorders affect approximately 12.7% of infants, surpassing the global prevalence of 8.4%, underscoring the need for urgent attention to broader health improvements, including addressing disabilities and their wider impacts.

#### Aims

This study aims to explore the impact of disabilities in preschool-aged children on the daily lives of primary caregivers in semi-urban Eastern Uganda. The specific objectives are to examine their struggles, coping mechanisms and support needs.

#### Methods

This qualitative study conducted primary data collection at an outpatient paediatric neurology clinic in Jinja City, Eastern Uganda between 18-29 March 2024. In-depth interviews were held with nine mothers of children between 1 and 6 years old with neurodevelopmental disorders and two healthcare professionals. Data were thematically analysed using a framework approach.

#### Results

Five themes were identified: 'struggles', 'information', 'faith', 'accepting the situation' and 'looking for a solution'. Mothers are highly in need of physical, psychological, social and financial support which goes beyond the capacity of healthcare providers, suggesting a need for administrative-level interventions. These findings will have implications for the development of holistic parental support interventions in Uganda and similar cultural and resource-limited settings.

#### **Insights on Inequality in the Distribution of Poverty in the United States in the Last Decade (2011-22)**

**Rajabhushan Jagdish Nayak - Sri Satya Sai Institute of Higher Learning; Aniruddha Bhandari - Sri Satya Sai Institute of Higher Learning; Ashish Singh - Indian Institute of Technology Bombay, India**

The present paper adds to the existing scholarship on Inequality of Poverty in the United States and not only estimates inequality of poverty (using intergroup disparity index of poverty) in the United States during 2011-22 period, but also relates it to the disparity/inequality in factors, such as, unemployment-population ratio, unemployment rate, loss of employment, average weeks of unemployment and the median weekly earnings. The findings indicate that the poverty (11.5%) in the United States is substantial (but decreasing) – for all racial and ethnic groups, for all family types, both natives as well as foreign born and in all regions. Also, the inequality of poverty in the US is extensive, for example, the poverty rates for Blacks and Hispanics greatly exceed the national average; in 2022, 17.1% of Blacks and 16.9% of Hispanics were poor, compared to only 8.6% of non-Hispanic Whites. Further, the inequality of poverty – based on family-type (married couple, female householder and male householder) is extremely high; and, based on regions has increased during 2011-22. Moreover, there are huge gaps between Blacks and Whites in unemployment-population ratio, unemployment rate, loss of employment, average weeks of unemployment and the median weekly earnings with the Blacks at the receiving end.

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#### **The structural and spatial testing of migration theories**

**Micol Matilde Morellini - University of Oxford & University of Zurich**

Human migration is a complex phenomenon influenced by individual agency and systemic structures. Agency captures the different drivers that may prompt people to move, while structure refers to the geospatial



regularities in human mobility and the exogenous factors that systemically enable or constrain it. Currently, there is no established methodology to assess how different migration drivers are manifested in and lead to geospatial structures. This paper presents a novel statistical method that conducts comprehensive tests of migration drivers, linking agency and structure. The proposed method draws on network science and simulations to generate theory-driven null models, which are then compared with observed migration flows. By revealing how different migration drivers can be translated into structural features, the network approach has the potential to significantly improve our understanding of migration processes. The network-based approach is highly flexible and can be applied to any migration phenomenon, both internal and international. An application to the case of student migration in 31 European countries between 2009 and 2019 (N > 5.7 million students) shows that even migration drivers that account for most of the variance in the data (adjusted R-squared >0.78) may not be sufficient to explain the structural features of the network, such as the emergence of migration clusters and bilateral corridors. This finding underscores the need for comprehensive testing to decide between competing migration hypotheses, providing further support for the network-based method.

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### **Chains that Bind: On the Job Search and Life Course Consequences of Restrictive Covenants**

**Vincent Jerald Ramos – University of Southampton**

Restrictive covenants (RCs) in job contracts serve as de facto chains restricting workers' current and future mobility by preventing them from either prematurely exiting the firm or working for its competitor (or both) within a limited period post-employment. A growing strand of the literature has analyzed its effects on individual and aggregate wages and employment as well as firm-level innovation and profitability metrics. In this project, I operationalize RCs as non-compete, training repayment, non-solicitation, and monitoring and enforcement stringency clauses embedded in hypothetical job contracts. Using a proposed conjoint design, I test the effects of these RCs on an array of subsequent outcomes including satisfaction, job search, and marital and fertility intentions. Preliminary findings using pre-test data from the Philippines lend evidence to the adverse effects of RCs on these outcomes of interest.

Through the conduct of an experiment, we will be able to directly identify and estimate individual-level responses to these contractual provisions without encountering the problems of data incompleteness and recall and desirability bias that might be pervasive when analyzing this topic using survey-based designs. Conjoint experiments have also been used to demonstrate the employment and life course consequences of precarious working conditions (Auspurg and Gundert, 2015) and more recently, the effects of uncertainty on fertility (Ramos et al., 2023; Lappegard et al., 2022) and marriage (Gong and Wang, 2022). Post-exposure, our main outcomes of interest include the hypothetical workers' job search intentions and marital and fertility intentions. Broadly, our results reinforce the role of effective enforcement of labor and antitrust regulations to abate the excessive exercise of restrictive term-setting in employer-employee contracts.

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### **Quantifying Potential Selection Bias in Observational Research: Simulations and Analyses Exploring Religion and Depression Using a Prospective UK Cohort Study (ALSPAC)**

**Jimmy Morgan - University of Bristol**

A major problem in research is non-random participation, which can occur either at recruitment into, or loss to follow-up during, the study. In both cases the analytic sample differs from the target population, potentially resulting in selection bias. Continued participation after 30 years of the current study is known to be non-random, due to factors including religion and mental health and could be subject to selection bias.

We used a series of simulations to estimate the effect of religiosity on depression under a range of selection scenarios. These simulations were informed by data from ALSPAC and external sources. Within these 36 different simulations we varied whether depression was binary or continuous, and the causal relationships between religiosity, depression, and selection. We estimated the bias that could be expected in the estimate of the relationship for each simulation scenario to see whether non-random participation could have a substantial effect on the association of interest.

Across all models and analyses we found that the magnitude of bias expected in the association between religiosity and depression was minor and would not be expected to have an impact on the overall association of interest and all models had sufficient coverage.

Despite non-random participation by the exposure and outcome, across plausible selection scenarios there was little bias across all models. Given the strengths and patterns of selection explored in this study, the resulting bias could be negligible. However, this cannot be assumed to hold for all studies and must be explored on a case-by-case basis.

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### **How have partnerships changed over the past 20 years in the UK?**

**Brienna Perelli-Harris, Bernice Kuang, Ann Berrington - University of Southampton**

Studies from the early 2000s indicated that partnerships in the UK were in flux; cohabitation and divorce were increasing, and marriage decreasing. Over the last decade, however, young people have experienced even greater social and economic change. Economic uncertainty, job precarity, and the high cost of housing markedly shaped young peoples' ability to form independent households. Furthermore, the Covid-19 pandemic curtailed socializing for an extended period of time, which may have also interrupted the formation of partnerships.

This study uses the UK Generations and Gender Survey 2022-23, which includes full partnership histories for 7,876 respondents aged 18-59. We investigate the rate and age of partnership formation, the duration of partnerships, and how they end (marriage or break-up). We will compare first and additional partnerships, and partnerships with and without children, to better understand how the intersection of childbearing and partnerships has changed over time. By using an event history approach which controls for calendar year, we will disentangle age, period, and cohort patterns. This approach will allow us to trace cohort changes (i.e. Gen X, Millennial, Gen Z cohorts) over calendar period, especially pertinent for understanding trends during Covid-19. Finally, we will explore potential covariates (gender, education) and examine whether the way people met their partners (e.g. in person or online) has changed over time.

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### **Unveiling Gender Differences in High-Skilled Migration: Insights from LinkedIn Data**

**Daniela Perrotta - Max Planck Institute for Demographic Research; Tom Theile - Max Planck Institute for Demographic Research; Emilio Zagheni - Max Planck Institute for Demographic Research**

International high-skilled migration represents an increasingly important component of migration streams with a significant impact on the global flow of skills and on migration policies. Understanding the factors that explain why highly skilled workers move, and where they go, is of paramount importance in migration research, but generally difficult to measure and model. This study explores the use of LinkedIn Ads data to analyze international migration patterns and gender dynamics among highly educated professionals in Europe. This research extends our prior work, which also utilized this dataset to characterize the mobility patterns of professionals in Europe and assess the relative attractiveness of European countries for high-educated workers. Here we present preliminary findings that highlight substantial variations in gender composition, migration trends, and industry preferences across European countries. While acknowledging the limitations and challenges of using digital trace data, this research offers new insights into the gender differentials in high-skilled migration in Europe to potentially inform future research and policy initiatives aimed at understanding and addressing the complexities of high-educated migration patterns in Europe.

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### **Repurposing SIR Models for Pregnancy to Examine the Longterm Socioeconomic Effects of Abortion Denial** **Samiksha Prabhu - IRI-NC, Tim Antonelli - Worcester State University, IRI-NC**

In June 2022, the United States Supreme Court overturned the landmark decision Roe v. Wade in the Dobbs decision, leaving abortion care up to state discretion. Many states in the United States have taken this opportunity to place even heavier restrictions around abortion care or ban abortions altogether. As a result of concerns for the health of women in America, especially the colored women and the women who belong

to lower economic stratas and the minimal data surrounding the longterm socioeconomic effects of abortion bans, we propose repurposing a SIR model to include pregnancy compartments instead, as well as including a separate income compartment to track socioeconomic factors alongside abortion denial. Any data we used was from the CDC, and we used MATLAB to create and run our compartmental model.

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**Gender Power Dynamics and Experience of Emotional Spousal Violence among Women in India**  
**Manas Ranjan Pradhan & Prasenjit De - International Institute for Population Sciences (IIPS), Mumbai, India**

Emotional spousal violence (ESV) against women has remained almost unchanged over the years, though there is a steady decline in spousal physical and sexual violence in India. There is limited empirical evidence on the interplay between power dynamics within marital unions and its effect on emotional violence in the country. This study investigates the association between gender power dynamics and ESV against women. The study used a sample of 63,851 ever-married women aged 18-49 selected from the domestic violence module of the National Family Health Survey (2019/21). The outcome variable was the experience of ESV by women. Husband's controlling behaviour, the attitude of women towards wife-beating, and women's decision-making autonomy, which reflect the gender power dynamics, were the key predictors along with other socio-economic confounders. Multivariate logistic regression using Stata was conducted, and results were presented at a 5% significance level. Fourteen per cent of women had experienced ESV. The adjusted odds of ESV were significantly higher among women with a controlling husband (AOR:10.15), those justify wife-beating (AOR:1.35), those who were afraid of their husbands (AOR:3.13), those exposed to childhood violence in the household (AOR:1.77) and without decision-making autonomy (AOR: 1.39). Thus, the husband's perceived hegemonic gender norm, which justifies his supremacy and control over the wife, puts the wife at risk of emotional violence. The findings suggest customized policies and programs enhancing gender egalitarian norms among men, women empowerment, and raising awareness on spousal violence to reduce ESV and ensure the welfare of women in India.

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**Spouse concordance for Religious/Spiritual Beliefs and Behaviors (RSBB) and Quality of Marital Relationships: Findings from a Prospective Cohort Study (ALSPAC) in Southwest England.**  
**Hamid Reza Tohidinik, Yoav Ben-Shlomo, Jean Golding - University of Bristol**

**Aims:** This study aimed to explore the association between concordance of religious/spiritual beliefs and behaviors (RSBB) among spouses and their quality of relationships (QoR).

**Methods:** We used data from the ALSPAC, a prospective UK birth cohort. Two aspects of RSBB – belief in a divine power and attendance at place of worship – were assessed during pregnancy (mean age 28.0±5.0 years for women and 30.4±5.8 for men). QoR was assessed using the Intimate Bonds Measure at 2.75 years postpartum. Analyses included individuals (6213 women and 4465 men) with RSBB and QoR data and covariates of age and socioeconomic status.

**Results:** Wives had lower QoR when neither partner believed in a divine power (beta = -1.16, 95% CI: -1.68 to -0.65), when only the wife believed (beta = -1.33, 95% CI: -1.88 to -0.77), or when only the husband believed (beta = -1.03, 95% CI: -1.75 to -0.3), compared to concordant believer spouses.

Similar effect was also observed in husbands, with significantly lower QoR scores when neither partner believed (beta = -1.88, 95% CI: -2.48 to -1.28), only the wife believed (beta = -1.10, 95% CI: -1.74 to -0.46), or only the husband believed (beta = -2.02, 95% CI: -2.85 to -1.20), compared to couples with shared beliefs.

Couples who both frequently attended a place of worship demonstrated higher QoR scores compared to those who both rarely attended (beta = 1.55, 95%CI: 0.85 to 2.26 for wives; 2.10, 95%CI: 1.31 to 2.89 for husbands).

**Conclusion:** The negative association between discordance in beliefs among couples and relationship quality implies that shared religious/spiritual beliefs may improve the quality of intimate relationships.

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**Examining how work-related multitasking affects employees' satisfaction of work-life balance**  
**Xiaomeng Shi et al – University of Manchester**

Work-related multitasking - the paid work period combined with household chores or other leisure activities - is closely associated with role spillover and the presence of constraints. This form of multitasking is often perceived as low-quality time use, utilised as an indicator of time pressure. However, it is also regarded as a strategy for time management, potentially enhancing efficiency by amalgamating paid work, household duties, and leisure activities within a limited time. It's unclear whether work-related multitasking positively or negatively influences employees' satisfaction with their work-life balance. Moreover, given the persistence of gender division of labour, the nature of such association may differ across genders and the number of co-resident children.

We utilize nationally representative data from the UK Time Use Survey 2014-2015. After filtering for employed individuals aged 18-65, we obtained a sample of over 3,000 individuals. We plan to use a weighted multilevel model, with individual as level one and occupational class as level two. Since we hypothesize the impact of work-related multitasking on work-life balance varies by gender, we will examine the interaction effect of gender and number of co-resident children on multitasking frequency.

Our preliminary findings indicate a negative correlation between multitasking that combines paid work with household chores and satisfaction with work-life balance among employed fathers. In the next step, our research intends to examine the influence of occupational class on the relationship. We will also take gender and number of co-resident children into account to further investigate the mechanisms underlying these effects.

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**Creating Coverage Adjusted Stock Estimates Exclusively from Administrative Data**  
**Alice White – ONS**

The Office for National Statistics (ONS) is exploring the production of more timely estimates of the population of England and Wales, and its change over time. A key challenge is the creation of an unbiased population stock that is not reliant on a specifically designed coverage survey. This approach is referred to as Population Estimation Compiled from Administrative Data Only (PECADO). This coverage adjusted stock estimate is required as one of the inputs to the innovative Dynamic Population Model, the ONS experimental approach to producing coherent population and migration estimates.

The Methodology and Quality Directorate in ONS leads research into the PECADO approach for England and Wales. To estimate the population size, a calibrated trimmed dual system estimator has been implemented, making use of two lists both compiled exclusively from administrative data. The poster will outline the novel approach in more detail, and present preliminary results.

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**An Introduction to the Scottish Longitudinal Study (SLS)**  
**Lee Williamson et al**

This poster will introduce the Scottish Longitudinal Study (SLS) and the datasets held as part of the standing study, the application process for researchers using it and outline research examples. The Longitudinal Studies Centre – Scotland (LSCS) was established in 2001 and hosts the SLS. This study links together routinely collected administrative data for a 5.3% representative sample of the Scottish population (about 270,000 people). It currently includes a wealth of information from the censuses starting in 1991, vital events registrations (births, deaths and marriages), Scottish education data, and with appropriate permissions can be linked to NHS health data including cancer registry and hospital admission data. The size and scope of the SLS make it an unparalleled resource in Scotland for analysing a range of socio-economic, demographic and health questions. Additionally, the longitudinal nature of the SLS is particularly valuable, allowing an exploration of causality in a way that cross-sectional data collected at a single point in time does not. In this way, the SLS can provide insights into the health and social status of the Scottish population and, crucially,

how it changes over time. The 2024 BSPS conference is an excellent opportunity to present what data is available as part of the SLS and will help researchers decide whether the SLS is an appropriate resource for their research in light of the recent 2022 Scottish Census (due to be launched linked to the SLS in summer 2025).

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### **Progress and developments towards making historic administrative data research ready** **Lee Williamson et al**

#### Objectives

To make research ready data from transcribed historic civil registration records: birth, marriage and death (from mid-19th century onwards). To use historic records effectively for large-scale research they must not only be made machine-readable, but also coded in a suitable format – along with classification of transcribed information. Included on the digitised historic records are textual descriptions of occupations and causes of death. Thus, to code transcribed occupations to HISCO and causes of death to ICD.

#### Approach

It is impractical to hand-code the records manually (34 million occupations and 8 million causes of death), especially for deaths where more than one cause can be given. As such, coding is viewed as a text classification task and the process is automated. To facilitate auto-coding, a proportion of records were hand-coded as training data (92,000 occupations and 103,000 deaths). Ahead of the auto-coding, initial pre-processing, cleaning and standardising is done on both the occupations and deaths.

#### Results

Preliminary experiments undertaken obtained reasonable results from a combination of exact matching and statistical classification. Experiments using a larger pilot uncovered that since some occupations are very common, the training data set covers a very large proportion of the records (ie exact match). This proportion is not as high for deaths given the different ways causes are written.

#### Conclusion

This is work in progress to create the research ready data, and the poster will include the results from experiments using the full training data (92,000 occupations and 103,000 deaths).

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