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INTRODUCTION

Population inequality matters

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ABSTRACT This Special Issue features 22 contributions that examine the interplay between population diversity and social inequality, thereby addressing the causes and consequences of socio-economic status (SES) differences in demographic behaviour. Among these 22 contributions, six are invited Debate articles that discuss selected contemporary challenges linked to population inequalities, including their measurement and assessment. These articles cover topics such as digitalisation, skills gaps, household arrangements, widowhood, mortality inequalities and subnational population dynamics. A striking example underscoring the need to consider demographic developments in conjunction with social inequality is the correlation between longevity and education, income and wealth. The observation that socio-economic status (SES) determines how long we live is not only relevant for understanding demographic patterns, but is also highly pertinent for policymakers aiming to reduce social inequalities. The link between demographic processes and social inequality is also evident in research on family behaviour, which, for example, explores the extent to which growing labour market inequalities shape disparities in fertility and family dynamics. Migration has an obvious connection to social inequality and social stratification research, particularly regarding the unequal opportunities in income and education migrants face within receiving societies, as well as in migrants' demographic behaviour and its relation to SES. This Special Issue seeks to emphasise the importance of linking research on demographic diversity and social inequality. Demographic research contributes by providing hard numbers on population structure and societal change, and showing how these relate to social inequality. In doing so, this research informs policymakers about the areas where action is needed.

KEYWORDS Diversity • Family • Fertility • Health • Migration • Mortality • Population • Rural-urban • Social inequality

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Introduction: Population inequality matters

Age, sex, marital status or migration background – these are fundamental categories of demographic research. Whether young or old, male or female, with or without an immigration history: these are nominal characteristics that do not carry any value judgement, but instead describe the population structure and composition of a society. They are often linked to differences in income, education and health. Unlike the latter – which reflect social inequalities and thus hierarchies – demographic characteristics are nominal categories. This means that they generally do not imply any ranking. A woman is not "less" than a man; married people are not "better" than singles. In this sense, population diversity simply refers to differences within the population, without judgement. Population diversity is thus, in a way, a neutral concept. What were once neutral terms for describing social reality have increasingly been reinterpreted as ideologically charged rhetoric. In several countries, research that examines population diversity has come under growing suspicion, viewed as part of a supposedly "woke" agenda – leading to budget cuts and political pressure in key areas of demographic research, social sciences research in general and health research. In light of the backlash against the use of established concepts such as diversity, the publication of a Special Issue focusing on population diversity and its connection to social inequality and health disparities is not only timely, but is vital for showcasing the contributions of demographic research to uncovering and understanding present-day problems. In this sense, demography plays a vital role in fostering transparency and identifying specific areas and policy problems where attention and action are required by policymakers. Furthermore, demographers inform citizens and stakeholders about social problems, and identify both progress and shortfalls in government actions and public policies.

Social demography: At the intersection of demography and social stratification research

Demographic research typically examines the causes and consequences of demographic behaviour, such as fertility and family dynamics; migration and mobility; and morbidity and mortality. It provides data on the structuring of populations along key dimensions such as age, sex, region, family status and migration background. Another distinguishing feature of demography is its focus on projections of future population size and structure. Whereas demographic research focuses on population structure and behaviour, social stratification research deals with the causes and consequences of inequality and the placement and "movement of people in social structure" (Sørensen 1996, p. 1334). It raises questions about the access to and distribution of "valued goods", such as education, income, wealth, prestige and health. Social demography brings these two perspectives together by emphasising how demographic behaviour may be socially stratified, and how it may perpetuate social inequalities (Fasang and Mayer 2020).

There are numerous examples of research at the intersection of social stratification research and demography. Particularly policy-relevant is the finding of a close correlation

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between social status, education, income and longevity (Luy et al. 2015, 2023; Permanyer et al. 2023; van Raalte et al. 2018). As premature death is one of the most acute indicators of social disadvantage, it is crucial to uncover its origins and develop effective policy solutions to improve health and reduce mortality among lower social strata. Beyond this, demographic research has illustrated that SES differences in survival can produce a paradoxical relationship with social inequality: in societies with strong social gradients in death rates, social inequality may be lower than in more equal societies because individuals with poor health and low social status die earlier, thereby exiting the study population (Hendi 2024; Zajacova and Burgard 2013, see also van Raalte et al. in this volume). This example illustrates that gaining a comprehensive understanding of social inequality in society necessitates the study of the interplay of both demographic and social stratification perspectives.

Family behaviour is closely interwoven with processes of social stratification through multiple channels. One of the most direct mechanisms is assortative mating: i.e., the tendency for individuals to partner with others of a similar educational, economic or social background (Schwartz 2013). This demographic behaviour has profound consequences for the concentration of income, wealth and social capital within households, thereby reinforcing or exacerbating social inequality. Beyond the economic consequences of partner selection, family dynamics are embedded in broader legal and institutional frameworks, particularly through marriage laws and divorce regulations. Legal constructs such as inheritance rules and marital property regimes shape the distribution of assets and the risks of poverty following family dissolution (Mills and Tropf 2015).

The intersection of stratification research and demographic behaviour is also crucial to understanding why poverty and social disadvantage tend to be persistent and "sticky" across generations. The mechanisms through which disadvantage is transmitted include social and economic processes that enable the well-off to safeguard and transmit social and economic capital to their offspring (Beckert 2022). Demographic behaviour can both reinforce and mitigate these patterns. For example, smaller family sizes among the well-off may lead to a further concentration of wealth by reducing the number of inheritors. Conversely, having many children or having children early may inhibit the accumulation of wealth and assets across the life course (van Winkle and Monden 2022). The intergenerational transmission of socio-economic disadvantage also occurs through the transmission of demographic behaviours, such as teenage pregnancy (Kalucza et al. 2021) or parental divorce (Amato 1996; Dronkers and Harkonen 2008). These behaviours are themselves closely linked to SES, and they may also be shaped by broader health inequalities and, potentially, genetic health predispositions. As such, they form part of a complex interplay of social, biological and behavioural mechanisms that perpetuate disadvantage over time. Family demography further highlights the intergenerational connectedness of family behaviour and social disadvantage. For example, divorce may have not only immediate economic consequences for the involved adults, but also long-term effects on children's outcomes, including their ability to accumulate wealth throughout their life course (Lersch and Baxter 2020). Likewise, unhealthy parental behaviours, such as alcohol consumption, smoking and substance abuse, not only have an immediate impact on a child's well-being,

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but also contribute to long-term effects through behavioural transmission across generations. Thus, in order to break the intergenerational link between advantage and disadvantage, it is essential to consider the interplay of social, economic, institutional and demographic factors.

The close connection between social stratification research and migration is so central that it appears almost self-evident. This is reflected in the extensive body of literature addressing the economic and social well-being of immigrant populations. Beyond this, examining migrants' family and marriage behaviours not only provides key demographic insights, but also deepens our understanding of their social integration into the host society (Kulu et al. 2019; Mussino et al. 2021). Assortative mating along ethnic lines, for example, has profound consequences for the socio-economic integration of immigrants. Ethnic homogamy interacts with migrants' human capital (Chiswick and Houseworth 2011) and is coupled with residential segregation (Macpherson and Strömgren 2012), and thus has implications for the cumulation of disadvantage in multiple areas. Beyond examining migrants' demographic behaviour and integration, the analysis of migration flows is core to demography. Examining both international migration and residential mobility requires careful attention to how these processes are socially stratified. For example, assessing whether high-skilled migrants are underrepresented in certain migration flows is crucial for identifying broader migration patterns. Generating robust and reliable migration data – broken down by socio-economic characteristics and comparable across countries – is not only a key concern for demographers, but also raises broader questions about how to inform policymakers while simultaneously making them aware of the limitations inherent in the data.

Lastly, both social stratification and demographic research address how individual actions shape macro-level social structures, which, in turn, create constraints on individual behaviour. Coleman's bathtub model (Coleman 1990) illustrates these feedback processes between micro- and macro-level dynamics. In demography, understanding these interactions is central not only for explaining past patterns, but also, increasingly, for projecting and forecasting future population size and structure, particularly through the use of agent-based modelling techniques alongside traditional demographic projection methods. With growing attention being paid to projecting future populations by socio-economic status (SES), demographic research and stratification research are increasingly coming together to provide policy-relevant findings for planning purposes and forward-looking policy making.

This Special Issue comprises 22 contributions – including *Research, Debate, Data & Trends and Review articles* – that present key findings at the intersection of demographic research and social stratification. These articles either offer novel evidence or reinforce existing findings in light of recent developments, including digitalisation and other emerging trends. The Special Issue is organised around the main themes of demography, namely: (a) fertility and family behaviour; (b) migration; (c) health and mortality; and (d) demographic methods and data. The following section summarises the key contributions of the articles within these thematic areas, highlighting their novel perspectives and their relevance for policy.

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Social gradients in family behaviour

Since the time of Malthus, demographers have maintained a long-standing interest in the association between socio-economic status (SES) and fertility. Classical interpretations were often rooted in concerns about rapid population growth, particularly the fear that fertility rates were too high among what were then defined as the lower social classes (Malthus 1998 [1798]; Notestein 1945). Today, however, this conversation has shifted considerably. With growing labour market uncertainties, rising inequalities and structural transformations – such as work automation and digitalisation of the labour market (Bogusz et al. 2025; Matysiak et al. 2023) – that have disproportionately disadvantaged the less educated, it is now the lower strata of the labour market who face increasing disadvantages on the partner market and in their ability to form a family. In this context, reproductive success seems to be increasingly tied to success in the labour market – not only for men, but also, and growingly so, for women, especially in more gender-equal societies. What remains less well understood is how to adequately examine the complex interplay between SES and fertility behaviour. To what extent is childbearing a cause or a consequence of socio-economic outcomes? Do unemployment and precarious employment lead to lower fertility, or do individuals with limited aspirations or opportunities in the labour market choose to have fewer children from the outset? To help answer these questions, Steffen Peters and Kieron Barclay (in this volume) draw on unique Swedish register data. By analysing leadership skills assessed at military conscription (age 17 to 20) – and thus well before fertility and family formation usually begin – they leverage exogenous indicators of labour market potential. Their findings provide clear evidence that early-life leadership skills shape men's later-life outcomes, particularly their likelihood of marriage, and, consequently, the number of children they eventually have.

Alicia Adsera's Debate contribution (in this volume) on the association between AI and fertility resonates strongly with findings that the digital transformation of society is leading to labour market polarisation, which, in turn, leaves a mark on fertility behaviour. She emphasises the gender component of this development. On the one hand, technology-related changes in the labour market provide women with new opportunities, particularly through remote work and better options to combine work and family life – though often at the cost of blurred boundaries between these spheres. On the other hand, women are less likely to enter emerging occupations created by digitalisation. Beyond labour market impacts, the digital revolution influences other aspects of family life. For example, dating apps may reinforce existing patterns of educational homogamy, further concentrating resources within households. Additionally, the use of AI in assisted reproduction raises significant concerns about equitable access, particularly regarding how public policies should regulate coverage and fund treatment costs.

A complementary perspective is offered by Leen Marynissen, Karel Neels and Jonas Wood (in this volume), who argue that profound changes in reproductive behaviour are underway. While low education, low earnings, unemployment and precarious employment have been linked to low fertility among men, the association between female education and employment is less straightforward. In fact, past research often showed that highly educated women tended to postpone childbirth and were more likely to remain childless.

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Using large-scale register data from Belgium, the article revisits the education and fertility nexus across multiple cohorts of women and analyses how these patterns intersect with migration background. Although there are still differences in first birth timing, there is clear evidence of convergence in levels of childlessness across educational groups among the native population. However, the pattern differs for migrant women, among whom higher education is still associated with a greater likelihood of remaining childless. At the same time, the study draws attention to the nuances that standard migration research often overlooks. In Belgium, as in many other countries, migrant populations are highly heterogeneous, making it difficult to generalise findings. This article highlights, for example, the significant differences not only between first-generation, 1.5-generation and second-generation migrants, but also across regions of origin. Thus, the register data used in this study, and in demographic research more broadly, helps to address some of the limitations of stratification research, which is often based on survey data constrained by small sample sizes and the underrepresentation of recently arrived immigrants.

The argument that the use of large-scale data across country contexts is essential to "go beyond" resonates strongly in the article by Jonas Wood, Leen Marynissen, Jessica Nisén, Peter Fallesen, Karel Neels, Alessandra Trimarchi, Lars Dommermuth, Ruben van Gaalen, Martin Kolk and Pekka Martikainen (in this volume). The authors use large-scale census and other administrative data from seven European countries to examine differences in fertility by education at the subnational level. They show that educational gradients in female fertility vary significantly not only between countries, but also across smaller regions within the same country. The paper demonstrates that national contexts are not as homogeneous as might be assumed, and that regional patterns are not consistent across countries. While one might expect the educational gradient in fertility to be smaller in capital cities and densely populated areas, the evidence is rather mixed. A notable outlier is Brussels, where a very strong educational gradient in fertility is observed despite the high population density. The paper also highlights the importance of accounting for migrant populations by region, given the strong correlation between urbanity, education and migration background in many countries. Although this descriptive, aggregate-level analysis cannot capture the specific mechanisms underlying the identified patterns, it suggests that factors such as regional childcare infrastructure or local labour market opportunities warrant further scrutiny to better explain the observed subregional heterogeneity.

Subnational variations in demographic behaviour and migration

Subnational variations are also at the heart of the article by Dirk Konietzka and Yevgeniy Martynovych (in this volume), which draws on data from six European countries to examine differences in place of residence between major educational groups and their changes between 2002 and 2022. The paper builds on the idea that internal migration, particularly from less developed rural areas to urban centres, is often driven by the desire to pursue higher education or better economic opportunities. As a result, selective migration could amplify regional disparities, with lower-educated populations concentrated in rural areas and higher-educated individuals concentrated in more densely populated urban centres.

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However, the paper offers a cautionary note: while some concentration of highly educated individuals in urban centres is observed in certain countries (notably Sweden and France), no large changes in this pattern can be observed over time. Thus, the theoretical discussions about increasing divergence between peripheral and central regions are not strongly supported by the empirical evidence presented in this paper.

The Debate article by Jesús García-Gómez, Juan Galeano and Albert Esteve (in this volume) expands the perspective to a global level by examining how household composition varies across countries and within subregional contexts. Using classical indicators of household composition, such as the number of children and the presence of extended non-nuclear family members, they find some homogeneity among European countries but much greater variation in other regions, particularly in Africa. Their findings highlight the importance of considering subregional differences, and suggest that results from one context cannot be easily transferred to another. Like in many other papers in this volume, the findings are based on reliable and cross-nationally comparable data sources, such as the Demographic and Health Surveys (DHS). Recent actions by the Trump administration in the U.S., including the withdrawal of funding and the suspension of surveys under the Demographic and Health Surveys (DHS) program, risk undermining the continued availability of these essential data resources (Khaki et al. 2025). This paper thus underscores what may be lost if data collection is disrupted, including limiting our ability to compare family structures globally and diminishing the potential for taking a truly global perspective.

Leo van Wissen and Becky Arnold examine in their Debate article (in this volume) rural-urban differences in population development while taking into account the impact of international migration. Drawing on Eurostat data from 2015 to 2020, they show that rural areas are grappling with population decline, whereas urban centres are continuing to experience population growth, largely driven by international migration, which tends to concentrate in these centres. However, the paper reveals a more unexpected finding: contrary to the common expectation that international migration is heavily concentrated in urban centres, the data show that international migration is more evenly distributed across subnational units. While this may raise hopes that international migration could help to mitigate the strong population concentration in urban centres, some caution is warranted. Aggregate-level migration data do not allow for the study of residential mobility among international migrants. Thus, it remains unclear whether significant numbers of international migrants who initially settle in rural areas later move to urban settings, potentially contributing to internal migration flows.

The article by James Raymer, James O'Donnell and Qing Guan (in this volume) shifts the focus from regional patterns to how migration shapes population structures. As international migration is usually undertaken by young individuals, it might be assumed that migrants generally occupy the middle part of a country's "population pyramid". However, the empirical evidence presented in the paper shows that this naïve view does not account for the strong heterogeneity among international migrants. How migration ultimately shapes a country's population structure depends on a range of factors, including return migration, fertility behaviour, migration history and the policy context of the country. Using Australia as an illustrative example, the paper shows that Indian or Chinese immigrants, who mostly arrived recently, indeed occupy the middle of the population structure.

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By contrast, migrants from Central and Eastern Europe, who also migrated in early adulthood but arrived decades ago and have remained in the country, now occupy the upper end of the population structure. Although primarily a demographic exercise, the paper has important policy relevance. It highlights how migrants move through the population structure over time, and how the ageing of diverse migrant populations creates particular challenges related to old age, such as the demand for elderly care and economic security.

The integration of migrants into society and the native population's attitudes towards migration are central themes not only in social stratification research, but also in demographic studies. Leo Azzollini, Daniela Bellani and Giulia Rivellini (in this volume) use survey data to explore how parental social class is associated with anti-immigrant attitudes across European countries. To operationalise anti-immigrant sentiments, they use the item stating that "countries with migrants become worse places". Their findings show a general decline in anti-immigrant sentiment across time. However, they also show that the influence of parental social class becomes stronger among respondents whose parents had lower-status occupations, highlighting the intergenerational transmission of demography-related attitudes.

Disparities in health, ageing and mortality

Premature death is a clear marker of social disadvantage and should attract policy attention, especially when it concerns child mortality. Emmanuel Idohou, Philippe Bocquier and Michel Guillot (in this volume) explore this issue using French panel data. This study investigates disparities in under-five mortality among children with different parental origins in France. The authors identify consistent mortality gaps, with children of immigrants typically experiencing worse outcomes than children of French natives. Their findings align with those of other studies in this Special Issue (such as the one by Marynissen et al.), which emphasise the importance of considering heterogeneity within migrant populations. For example, children from some regions, such as Sub-Saharan Africa, face the clearest disadvantages. The paper also highlights strong interrelations with other socio-demographic variables, including very early childbearing and paternal support, which are key factors for child survival and are correlated with migration status. Many mechanisms remain only partially understood due to data limitations, including the health behaviours of migrant populations and their use of regular prenatal medical check-ups. Nevertheless, the strong association between child survival and parental background clearly signals an urgent need for targeted policy intervention.

The abovementioned results are complemented by the analysis by Ronak Paul, Shreyantika Nandi and Rashmi Rashmi (in this volume), who examine under-five mortality risk in Nepal in 1970–2022. They emphasise that children living in single-headed households face higher mortality risks than children living in other family settings. Moreover, they find that low household wealth, limited maternal education, young maternal age at birth, short birth spacing and residence in ecological regions with poor access to healthcare services are significant factors affecting under-five mortality. These findings underscore the strong link between child survival and household socio-economic conditions,

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suggesting the need for targeted policies to address household vulnerability as a key strategy for improving child survival rates. Like the study by García-Gómez et al. (in this volume), this paper utilised data from the Demographic and Health Surveys (DHS), emphasising the unique contribution of these data to improving our understanding of global patterns of demographic behaviour across key areas.

Carl Michael Baravelli, Tord Finne Vedøy, Rannveig K. Hart, Jonas Minet Kinge and Astri Syse (this volume) use both survey data and register data from Norway to provide an overview of the link between socio-economic status (SES) and health behaviours and mortality. Using various measures – including smoking, obesity, physical inactivity and low fruit/vegetable intake – they show that these factors are consistently correlated with SES, and particularly with household income. The analysis of cause-specific mortality (broken down into all-cause mortality, medical intervention-amenable mortality and smoking-related mortality) reveals similarly strong patterns. While the study does not directly link health behaviours to mortality, it is clear that the two are closely interrelated. The strong association between income, health behaviour and longevity must also be contextualised. In a relatively affluent society like Norway, it might be assumed that health and mortality disparities would naturally diminish with economic development. However, the findings suggest otherwise, emphasising that even in affluent societies, it is important to consistently monitor the relationship between the socio-economic status (SES) gradient and health behaviour and mortality.

Thomas Arnhold, Viktoria Szenkurök and Daniela Weber (in this volume) investigate health disparities at advanced ages across 11 countries worldwide. They focus on key indicators of health among older adults (aged 60–74), specifically on grip strength, immediate recall and verbal fluency. For each of these indicators, they calculate a Gini coefficient at the country level, thereby combining a classical measure of inequality with health research. This approach offers an easily interpretable and tangible metric for both policymakers and the broader public. An important finding is that countries with higher average health levels among older adults also tend to exhibit more equal distributions in these health indicators. This observation offers a more optimistic perspective than the Norwegian study, as it indicates that health disparities tend to be smaller in countries with generally better health, suggesting that improvements in overall population health may go hand in hand with a reduction in inequality. However, this pattern is not uniform across all health outcomes – for example, no such relationship is observed for handgrip strength.

Santosh Jatrana, Ken Richardson, Samba Siva Rao Pasupuleti and Susan Hartono (in this volume) contribute to our understanding of migrant health by focusing on body mass index (BMI). They note that simple analyses that do not account for age at arrival and duration of residence in the destination can lead to erroneous conclusions regarding migrants' health. The "healthy migrant effect", which refers to the observation that migrants tend to have lower mortality and better health than natives, is often explained by a selection effect whereby younger and healthier migrants arrive in the host country while older and less healthy migrants return to their country of origin (Razum 2008). Using longitudinal data from Australia, this study confirms the well-documented variation in the health advantage of migrants across time in the destination country, from being strongest at arrival and diminishing with longer duration of stay. The prevalence of obesity also follows this pattern.

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After an initial period in which immigrants have lower obesity rates, their obesity levels increase over time, with immigrants having similar odds of being obese as those of native-born Australians after about 20 years of residence. The authors show that socio-economic status and language proficiency are important mediating factors that influence not only immigrants' health outcomes, but also their desire to stay. Similar to other contributions in this volume that address migration, this study also highlights the importance of considering the substantial heterogeneities within migrant populations.

The Debate article by Alyson van Raalte, Yana Vierboom and Pekka Martikainen (in this volume) addresses the rarely examined yet crucial topic of how selective mortality affects population diversity and inequality, especially at higher ages. The issue can be illustrated clearly: individuals with lower levels of education tend to die earlier than those with higher education. As a result, the proportion of highly educated individuals is larger in older age groups than in younger groups, *ceteris paribus*, simply because individuals with lower levels of education are more likely to have died, and are therefore no longer part of the population at older ages. This dynamic affects not only educational composition, but also family composition, a dimension that has often been overlooked in previous research. For instance, family status has been shown to be a significant factor influencing health and well-being, and, ultimately, mortality. Thus, at advanced ages, the population composition by family biography (e.g., marital status) may be substantially shaped by mortality selection. Methodologically, this is a powerful insight that bridges stratification research and demographic analysis. At the same time, it serves as a caution for studies relying on survey data, which inherently capture only the surviving population. This may lead to biased conclusions, for example, when estimating the correlation between union status and health or life satisfaction in later life using cross-sectional survey data.

The Debate article by K.S. James, Ravi Sadhu and David E. Bloom (in this volume) explores a related area by examining how economic and health indicators vary across the life course in India, with particular attention being paid to differences by marital status, especially between married and widowed individuals. The study focuses specifically on female widows, who are a rapidly growing group in India. The paper provides not only hard health indicators, but also a comprehensive contextual analysis of the challenges Indian widows face. This analysis is set against the backdrop of a country experiencing rapid economic development and the emergence of welfare state institutions – which, however, remain incomplete or inaccessible, especially for older women. Widows in particular are often not automatically included in formal support systems, and thus remain heavily dependent on family networks, which are themselves changing. The study makes a strong case for how demographic change raises new and pressing questions about social inequality and cohesion, especially in societies undergoing uneven development and institutional transformation.

The article by Muszyńska-Spielauer and Tim Riffe (in this volume) investigates how the heterogeneity in the risk composition across population subgroups can affect estimates of summary health indicators based on life table techniques, like life expectancy or lifespan inequality. The authors propose novel solutions to address the bias in life table measures arising from the lagged composition of the life table cohorts by observed characteristics.

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Their analysis of Danish mortality data reveals that Denmark's substantial educational expansion has created a significant discrepancy between standard life expectancy estimates and those adjusted for the population's evolving educational profile. In this regard, their findings emphasise that compositional change is an often-ignored (yet powerful) force that can drive or offset a trend.

Demographic methods and data

This Special Issue includes articles that make important contributions to enlarging the toolkit used by demographers and other social scientists to better understand the extent of heterogeneity in the populations under study. A good example is the article by Hal Caswell and Silke van Daalen (in this volume). The authors propose a novel method to assess how different factors and their interactions (e.g., sex, race, place of residence) affect the variability in demographic outcomes (like longevity or lifetime reproduction). This method goes beyond current approaches that have typically focused on the effects of one factor at a time, but have disregarded the joint effect that several factors can simultaneously have on the outcome variable. For this reason, the contribution of this paper is not only methodological, but can also have implications for the design of policies aimed at identifying and reducing health inequalities.

Thomas Horvath, Martin Spielauer and Philipp Warum (in this volume) present a state-of-the-art microsimulation model – microDEMS – applied to the Austrian context. This model integrates demographic, socio-economic and institutional variables to realistically simulate key processes such as labour force dynamics, retirement patterns and demographic change. The authors show the ability of this model to account for the heterogeneity of individual life courses, including variation in education, health and labour market participation. By incorporating educational differentials in both mortality and fertility, the model enhances the accuracy of labour force projections. This contribution has important implications for demographic forecasting and policy planning in ageing societies.

The article by Maria Bekker-Nielsen Dunbar, Svenn-Erik Mamelund and Gerardo Chowell (in this volume) extends conventional endemic-epidemic models by explicitly incorporating socio-economic deprivation. Using the German Index of Socio-economic Deprivation (GISD) in an epidemiological model of norovirus incidence, the authors show that considering the socio-economic context improves model performance, even without relying on complex time-varying contact matrices that capture how the virus is transmitted. Again, this paper highlights the importance of socio-economic conditions in shaping health outcomes, and offers valuable insights into the design of public health policies.

The Debate article by Wolfgang Lutz (in this volume) shows that standard educational attainment indicators (like the percentage of the population attaining primary, secondary or tertiary education) can generate a misleading picture of the distribution of human capital both across and within countries around the globe. Importantly, the author argues that formal educational attainment measures should be complemented

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with novel indicators capable of measuring the skills that individuals possess. Until recently, consistent international time series data on adult skills were only available for a relatively small set of countries. However, recent data collection efforts now offer researchers the opportunity to explore not only how skills are distributed across and within countries, but also how they change over the working life course. Lastly, the contribution outlines an ambitious research agenda to empirically assess the role of skills and educational attainment in many dimensions of sustainable development (such as those covered by the United Nations' Sustainable Development Goals).

As demographers and sociologists, we often base our analyses on data that we assume to be representative of the population. However, this assumption overlooks the fact that many segments of the population – particularly those who are difficult to reach or are not even covered in sampling frames – are systematically excluded. These parts of the population are often among the most disadvantaged groups. One such under-covered and under-studied group is made up of people experiencing homelessness. Beyond the challenges of including them in surveys, we also face the issue that a unified definition of what constitutes homelessness is lacking. While efforts such as the EU-wide ETHOS typology and special census initiatives have aimed to better capture this population, significant gaps remain. In their Review article, Zack Almquist, Paul Hebert and Amy Hagopian (in this volume) highlight this critical research gap. Their paper provides a comprehensive overview of existing approaches and methods used to enumerate and estimate homeless populations; discusses the challenges associated with capturing this often invisible group; and underscores the importance of demographic research in addressing these gaps. They specifically call on demographers to apply the discipline's analytical tools to more systematically study homeless populations and find ways to harmonise definitions of homelessness across countries and continents.

Concluding remarks

This Special Issue demonstrates the analytical power and policy relevance of integrating demographic and social stratification research. By examining how population structures – shaped by age, sex, migration background or family status – intersect with social inequalities in education, health, income and mortality, the contributions reveal how demographic behaviours both reflect and reproduce broader patterns of inequality. Bringing these perspectives together enhances our understanding of social dynamics and provides more refined, empirically grounded evidence for policymakers. As societies grow increasingly diverse and unequal, the collaboration between demography and stratification research becomes not only intellectually enriching, but also essential for identifying, anticipating and addressing pressing social challenges. By uniting these critical perspectives within a single volume, this Special Issue offers not only the latest cutting-edge research for scholars and academics, but also a vital evidence-based resource for policymakers seeking to respond to the complex realities of an increasingly diverse and unequal world.

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