



HANDBOOK ON

# Demographic Change and the Lifecourse

Edited by

**Jane Falkingham • Maria Evandrou**

**Athina Vlachantoni**



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LIFECOURSE



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We would like to dedicate this book to all those across the globe whose life courses have been cut short or affected by COVID-19. This volume brings together many of the leading academics working in the field of population change and the life course from across the globe. When first commissioned, the plan was for the book to be launched at the bi-annual conference of the European Association for Population Studies (EAPS) scheduled to be held in Padova from 24-27 June 2020. Unfortunately, however, the European Population Conference 2020 had to be cancelled as countries around the world rallied to tackle the challenge of the coronavirus (COVID-19). The editors would like to recognise the contribution of EAPS Council and the local organising committee at the Department of Statistical Sciences of the University of Padova. This volume also celebrates the 10th anniversary of the ESRC Centre for Population Change (grant number ES/K007394/1). The editors are grateful for the support of the team within CPC who continued to provide excellent support during the transition to ‘home office working’, alongside all of the authors who proof read their chapters whilst balancing work and family life, with many home schooling and/or caring for vulnerable older relatives. Thanks also to the wonderful team at Edward Elgar, who continued to work to their usual high standard throughout. In fifty years’ time, academics will look back and study how individual and families life courses were altered by the pandemic.

Jane Falkingham, Maria Evandrou and Athina Vlachantoni,  
June 2020.



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# 1. Demographic change and the lifecourse: an introduction

*Jane Falkingham, Maria Evandrou and Athina Vlachantoni*

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## 1.1 WHY FOCUS ON DEMOGRAPHIC CHANGE AND THE LIFECOURSE?

Over the past two decades the lifecourse perspective has become an indispensable tool in the study of demographic change, driven by – and reflected in – advances in both theory and data. Theoretical perspectives on the lifecourse continue to highlight the importance in our understanding of demographic change of such principles as the timing and sequencing of events, the role of human agency and the significance of linked lives; while the establishment and increasing sophistication of longitudinal datasets, both within and across country contexts, has made the application of the lifecourse perspective possible in empirical research. Demographers across the globe have responded enthusiastically to the methodological challenges associated with studying demographic events over time, with appreciating the role of the individuals' environment in shaping their choices and decisions, and with operationalising key concepts such as the duration and timing of demographic events. The result has been a step-change in our understanding of the causes and consequences of population change, and a vast expansion in the evidence base informing contemporary policy debates on a global scale; be it on family formation and dissolution, migration, inequalities of different forms, and the complex quest for improving wellbeing at the individual, household and societal level. This volume is a small selection of contributions from demographers around the world on the role of the lifecourse perspective in their research.

The volume is divided into six parts. First, we consider recent theoretical and methodological advances in lifecourse research. We then turn to a discussion of data and how the evolution of key sources of panel and cohort data have fuelled innovation in lifecourse research. The next three parts present research shedding light on family dynamics and living arrangements, health, and migration and mobility over the lifecourse. The sixth and final part illustrates the implications of lifecourse research for policy.

## 1.2 THEORETICAL AND METHODOLOGICAL ADVANCES IN LIFECOURSE RESEARCH

Chapter 2 introduces Part I on theoretical and methodological advances in lifecourse research, and presents the lifecourse cube as an innovative tool for analysing individual lifecourses and interdependencies across three dimensions: time, life domains and levels of analysis (or process levels). This chapter discusses how the complexity embodied in the lifecourse cube can be applied to a range of topics within demographic research, including the dynamics of fertility, mortality and migration.

Chapter 3 critically discusses lifecourse-sensitive concepts and measures of social inequality, and the usefulness of a lifecourse perspective in the study of social stratification. The authors argue that in times of rapid demographic change, the lifecourse perspective is particularly valuable. The chapter discusses relevant examples, for instance, the combination of family instability, on the one hand, and more precarious employment, on the other hand, which could increase the prevalence of socio-economic inequalities for individuals in all age groups.

The incorporation of the lifecourse perspective in empirical research has opened up a range of methodological possibilities in the field of demography, particularly in terms of longitudinal analysis. Chapter 4 provides a succinct discussion of such methodologies, distinguishing between event-based methods (such as event history analysis) and holistic methods (such as sequence analysis). This chapter also discusses the types of research questions which can be addressed with different methodologies, and the strengths and weaknesses of each method, within the broader framework of lifecourse-sensitive longitudinal analysis.

### 1.3 DATA AND INNOVATION IN LIFECOURSE RESEARCH

A key driver of the increasing application of the lifecourse perspective within empirical analysis of demographic change has been the expansion in the availability of appropriate data that allow researchers to capture the complexity of individual lifecourses. In Part II, Chapter 5 introduces the dataset established by the Generation and Gender Programme (GGP), which is one of the fundamental datasets allowing for cross-national comparative and longitudinal analysis in areas such as intergenerational exchange and support. This chapter highlights selected cases of research where the GGP data have been used, for example, the study of family dynamics and childbearing, and transitions to adulthood.

Chapter 6 outlines the characteristics of another key data source for research applying the lifecourse perspective – the Survey of Health, Ageing and Retirement in Europe (SHARE). This chapter discusses in particular the life history element of the survey, presenting examples from six domains where recent analysis has made a contribution to extending our understanding of demographic change and the lifecourse: childhood circumstances and later life wellbeing, health and healthcare, labour market and occupation, income and wealth, work and retirement, and the impact of European history on individuals and societies alike.

Chapter 7 explores the growing body of evidence about family transitions, including the family structure, partnership formation and dissolution and childbearing, drawing on data from the 1958 and the 1970 British birth cohort studies. Through the discussion in this chapter, the authors highlight the importance of the historical context in which the cohorts grew up for understanding differences across cohorts. They discuss the opportunities for future research in this area, for example, the study of the ‘living apart together’ phenomenon, and the cohorts’ transitions into later life experiences such as grandparenthood.

Applying a lifecourse perspective, Chapter 8 discusses the ways in which data from the UK Household Longitudinal Study (or Understanding Society) have been analysed to shed new light on different stages of the lifecourse (childhood, adulthood, older age). In particular, the authors illustrate the importance of context (time and place) and how these have featured in recent empirical analysis.

## 1.4 FAMILY DYNAMICS AND LIVING ARRANGEMENTS OVER THE LIFECOURSE

The previous chapters have highlighted the importance of data for understanding demographic change. Part III now focuses in more detail on family dynamics and living arrangements over the lifecourse. In Chapter 9 the authors use data from the UK Millennium Cohort Study and the US Fragile Families Study in order to compare and contrast the experiences of married and unmarried parents during the first five years of children's lives. Their comparative analysis shows that cohabiting families with young children tend to be more unstable, vulnerable and impoverished than families of married couples; and single mothers and their children tend to have lower levels of wellbeing than married or cohabiting families, although the latter result is not consistent across the two contexts and different indicators.

Chapter 10 examines intermarriage in Australia using marriage registration and census data, focusing on the interethnic pattern of marriages in Australia and the marriage behaviour of migrants to Australia. This chapter argues that restrictive migration policies have a direct and negative impact on union formation patterns among migrants to Australia, and that there is a clear gender dimension in such phenomena, with women being more likely to be secondary applicants or sponsored by an Australian-born partner. Within a lifecourse perspective, the chapter illustrates how key demographic events such as marriage and partnership formation can be facilitated or disrupted by migration.

Focusing on population change and housing across the lifecourse, Chapter 11 discusses the macro-level relationship between population change and the housing system, considering the interdependencies between age composition, household trends and housing demand. This chapter outlines how the lifecourse perspective can be applied to the study of what is termed 'housing demography', illustrating the links between residential mobility and family formation.

## 1.5 HEALTH OVER THE LIFECOURSE

One of the greatest achievements of the twentieth century was the extension of life expectancy. Understanding the influences on health at different stages of the lifecourse, how an individual's health at one stage influences his or her health later in life and how to narrow the gap in healthy life expectancy across social groups is critical if we are to consolidate and continue these gains. In Part IV, focusing on the importance of early life, Chapter 12 provides a succinct summary of current research and thinking on the effects of long and short birth spacing on the wellbeing of children, using a range of health, educational and socio-economic outcome variables across different points of the lifecourse. Highlighting the importance of the context in which individual trajectories are studied, the chapter draws on evidence from research embedded in the lifecourse perspective and aimed at understanding such effects at various levels of social and economic development.

Chapter 13 then critically reviews evidence which links work, family and health across the lifecourse, drawing on the three British birth cohort studies (1946, 1958, 1970). This chapter highlights the role of lifecourse-sensitive analysis in understanding how the timing of events affects individuals' wellbeing. The chapter centres around women who combine work and family, and its effect on their health: are women who combine work and family healthier as

a result of combining employment with a stable partnership and parenthood, or is the association the result of healthier women being more likely to enter the workforce and have children, or a combination of bi-directional processes? The chapter argues that women who spend long periods of time out of the labour market to look after home and family end up being less healthy on a range of markers compared with women who combine paid employment with a stable partnership and parenthood, suggesting that there is a cohort effect with such health differences becoming stronger for younger generations of women who are less likely to spend long periods out of the labour market.

## 1.6 MIGRATION AND MOBILITY OVER THE LIFECOURSE

We live in an increasingly mobile world. In Part V, Chapter 14 makes a case for the central role of the lifecourse theory in our understanding of contemporary population mobilities. It uses residential mobility in the UK in order to illustrate the strengths of the lifecourse perspective; for example, in terms of acknowledging the role of human agency in mobility patterns, timing of events and the principle of linked lives. This chapter also includes suggestions for fertile areas of future research, such as the linkage of individual lives to the broader institutional framework where they are situated, exploring for example mobility experiences in a time of recession and austerity.

Chapter 15 contributes to our understanding of the interrelationship between partnership, residential mobility and housing transitions. Using data from the British Household Panel Survey, the authors apply event history analysis to examine residential mobility by partnership status, further distinguishing between separated individuals according to the time since separation. They then use panel regression methods to examine home ownership by partnership status and gender. The chapter shows that married individuals have the lowest mobility rates, and single men and women the highest. Among separated individuals, as the time since separation increases, the mobility rates decrease, with no gender differences in this respect. The chapter concludes with a discussion of the methodological challenges remaining in this area, and suggestions for future research.

Drawing on data from the Dutch population registers, Chapter 16 examines the consequences of European Union (EU) migration for national welfare systems. The chapter focuses on EU migrants from Poland and Bulgaria to the Netherlands in the years after these countries joined the EU, and specifically the impact of labour market restrictions on their welfare access. The authors find that the migrants' lifecourse characteristics, length of stay and labour market status are as important in determining their eligibility to welfare as the relevant national and European frameworks, thereby highlighting the importance of embedding a lifecourse perspective in future analysis in this area.

## 1.7 POLICY

Many of the preceding chapters have highlighted the importance of the institutional environment for understanding differences in lifecourse transitions across countries or sub-groups within countries. The final part of this volume focuses more explicitly on the role of policy in influencing demographic change and the implications of population change for policy across

the lifecourse. Chapter 17 uses data from the Fragile Families and Child Wellbeing Study in the USA in order to critically discuss the impact of different types of welfare state benefits on families with children. The authors describe the bifurcated nature of welfare state transfers by income and family type: poor and fragile families receive income-tested health insurance and housing benefits, while middle- and upper-income, and mostly married-parent, families receive generous employer-provided health benefits and tax-subsidised home ownership benefits. Critical and policy-relevant questions are raised in this chapter about the optimal characteristics of welfare support in the USA, and its role in terms of the economic wellbeing of all families, and especially fragile families.

Elder care for frail older adults in the USA is provided through a variety of channels, including formal and informal providers. Chapter 18 reviews the current framework on paid leave for elder care in the USA, highlighting gaps where research evidence on the impact of different family leave policies is evident. The authors also suggest recommendations for policy reforms and directions for future research, for example, studies documenting the effects of paid family leave on the caregivers' work, health and care provision.

Using data from the SHARE dataset, the authors of Chapter 19 explore the financial situation of retired migrants from the first wave of post-war migration to the European Economic Area (EEA). They find that migrants living in the EEA who stayed in their host country on retirement are at a significantly greater risk of relative poverty than native retired citizens, however, such risk varies depending on the migrants' country of origin, with those from non-EEA countries faring worse. The chapter raises critical questions about the characteristics of different pension systems, and the ways in which migrants' economic wellbeing is affected.

In Chapter 20 the authors present an analysis of the Understanding Society dataset linking individuals' employment history and later life satisfaction, distinguishing between three cohorts (1940–44, 1945–49, 1950–54). Sequence analysis is used in order to group earlier life employment histories into eight clusters representing different work trajectories. The analysis shows that older people in the part-time returning group report the highest life satisfaction, followed by the full-time employed and those who shifted from being full-time employed to self-employed during their working life. Using a lifecourse approach, the authors then conduct path analysis to unravel this relationship further. This reveals that lifecourse employment history has an indirect effect on life satisfaction, mediated by individuals' health pension security and housing tenure. The analysis highlights the complexity of the lifecourse and how different domains are interlinked.

Taken together, the chapters in this volume illustrate the state of the art in research on demographic change and the lifecourse and in doing so underline the necessity for continuous advances in data, methods and theory. We thank all the contributors and hope you enjoy the read.



# PART I

## THEORETICAL AND METHODOLOGICAL ADVANCES IN LIFECOURSE RESEARCH

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## 2. Linking demographic change and the lifecourse: insights from the “life course cube”

*Laura Bernardi, Johannes Huinink and Richard A. Settersten, Jr*

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### 2.1 INTRODUCTION

There is widespread agreement among social scientists that sound explanations and meaningful reductions of the causes and consequences of social change demand attention to factors across a range of analytic levels. That is, macro-level phenomena are rooted in lower-order, and especially individual-level, phenomena. This means that the study of demographic change, as part of social change, and the study of individual lifecourses are intimately connected because they involve multidimensional and interdependent processes.

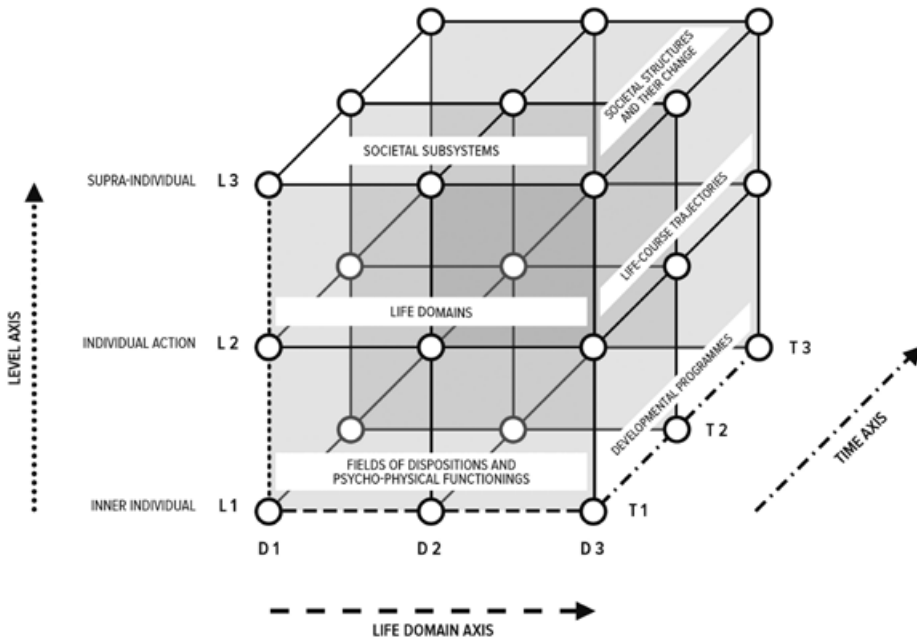
Demographic phenomena are largely defined by individual actions and behaviors and by their consequences at the aggregate level for a given time interval and in a given population. As a result, explaining demographic change rests on understanding changes in individual lifecourses. Conversely, because individual lifecourses occur in and are affected by demographic contexts, and by changes in these contexts, demographic phenomena are necessary to analysing individual lifecourses. Demographic and lifecourse research must naturally consider time-related interdependencies between past, present and future (anticipated) events in different life domains, such as education, work and family.

Both demographic and lifecourse research, then, address highly complex processes – processes that cross levels, time and domains and that go well beyond the micro–macro duality of much social research. Handling complex processes – processes which are at once multilinear, multidimensional and multilevel – requires a sophisticated yet straightforward modeling strategy. To guide the explanation and prediction of demographic change, we propose a lifecourse model to address the dynamic interrelation of structure and agency. This model is based on our recently developed “life course cube” (Bernardi et al., 2019) and its foundation in a micro-level theory of human behavior. After briefly describing the main elements of the cube and its theoretical underpinnings, we explore how the interdependencies highlighted by the cube can be useful in analysing demographic change and its intersection with the lifecourse.

### 2.2 THE LIFE COURSE CUBE

#### 2.2.1 The Three Dimensions of the Life Course Cube and Interdependencies Within Each Dimension

Figure 2.1 illustrates the three dimensions of the life course cube, which posit the individual lifecourse as characterized by three sets of “first-order” interdependencies: interdependencies



Source: Bernardi et al. (2019, p. 4).

Figure 2.1 The life course cube: time, domain and level interdependencies

across time, across life domains, and across levels of analysis (or what we also call process levels).

On the *time* axis, interdependencies between past, present, and future of the lifecourse create a shifting horizon for actions. For example, path dependency might impact current and future opportunities in relation to life plans (what we call the “shadow of the past”), while the anticipation of future outcomes might have considerable effects on current life events and decisions (what we call the “shadow of the future”). On the *domain* axis, interdependencies occur across different spheres of life, such as work, family, education and leisure. For example, activities in different life domains might compete for resources like time or money; or they might support each other, such as the fact that employment provides the financial resources needed for family and leisure. Activities in different life domains might also complement or substitute for each other in producing wellbeing, which we see as a central goal toward which individuals are striving. For instance, consider psychological wellbeing, where one might compensate for negative feelings that stem from a history of dysfunction in family life by instead focusing on positive feelings that stem from a history of successful professional experiences. Finally, on the *level* axis are interdependencies among processes that operate at different levels, such as those between physiological functioning (inner-individual level), action and behavior (individual level), and social, economic, institutional and cultural environments (supra-individual level).<sup>1</sup> Interdependencies across levels are inherent in the fact that both inner-individual states and supra-individual conditions are relevant for individual behavior and decision-making at any

point in time and that the outcomes of individual action affect both inner- and supra-individual processes.

### **2.2.2 Interdependencies Across Dimensions of the Cube**

Relationships occurring along the three dimensions of the cube are also not independent of one another but rather are closely connected, resulting in second-order interdependencies (intersections between time\*levels, levels\*domains, time\*domains) and third-order interdependencies (intersections between time\*levels\*domains). It is precisely the acknowledgment and treatment of these interdependencies that yields an appreciation for the complexity of individual lifecourses.

The three-dimensional representation of lifecourse processes in the cube are particularly well suited to address demographic questions. For instance, accounting for changes in fertility tempo and quantum requires understanding of human reproduction, which in turn naturally demands attention to the crossing of time, domains and levels. There is significant research that demonstrates the spillover of fertility onto domains like health, employment and migration, which signals the need to address interdependencies with the domain axis (Bernardi et al., 2017; Kulu and Milewski, 2007; Shreffler and Johnson, 2013). Similarly, studies have documented the significance of meso-level influences on reproductive decisions, such as couple and peer influences, or the role of institutional and environmental opportunities and costs for childbearing (Bernardi and Klärner, 2014; Kulu and Washbrook, 2014; Thévenon, 2011), which reinforces the need to address interdependencies with the level axis. Research has also examined the effects of wavering reproductive decisions or the active postponement of fertility on childlessness (Sobotka, 2017), which underscore interdependencies with the time axis.

Most researchers have paid attention to first-order interdependencies. It is much rarer for particular studies to conceptualize, or empirically model, interdependencies that cross time, levels and domains. Continuing with the example of fertility, this would require investigators to simultaneously consider how the multiple life domains that influence reproductive decisions are organized by institutional frameworks, which establish goals and schedules that may be incompatible or contradictory. The timing and sequencing of fertility, for example, are affected by institutional pressures or cultural age norms related to completing schooling and training or finding employment, being promoted, and accumulating an adequate history of work or assets (for example, savings, housing) or time with a partner before parenting (for example, Perelli-Harris and Bernardi, 2015; Settersten and Thogmartin, 2018). There are descriptive accounts of social or institutional schedules that hinder individuals' abilities to integrate the demands they face across life domains, but these are rarely modeled in complex interaction (Knecht and Freund, 2016; Tomasik and Silbereisen, 2016). The multiple clocks that direct individuals' behavior across life domains (for example, with prescriptive or proscriptive rules or expectations) may operate with different degrees of clarity or coherence with each other. In addition, some clocks may be more rigid, or more rigidly enforced, than others, such as those that regulate education and employment transitions relative to those that regulate residential and family transitions. To more thoroughly and accurately understand the role of multiple clocks in reproductive decisions, one would have to adopt a micro-level explanatory frame that includes the influences of multiple institutional frames over time.

Although theories and empirical research often focus on particular parts of the cube, the cube forces researchers to be mindful – and humble – that what they are investigating is only

part of a highly complex and nonlinear process. As we will show, the cube, as a heuristic tool, supports a dynamic theory of demographic change that results from the interactions of individuals purposeful actions, within the multidimensional and multilevel contexts of a lifecourse situated in a personal past, present and future.

### 2.2.3 A Theory of Human Behavior

The two previous subsections introduced the life course cube as a structured and transparent way to view interdependencies that must be confronted in the study of lives generally, and in the study of demographic events in particular. In order to move from the identification of such interdependencies to the explanation of demographic events and phenomena, an additional step is required: to anchor the cube in an action theoretical framework and relate it to the concept of agency (Bernardi et al., 2019).

We view the individual lifecourse as a multifaceted process of individual behavior evolving from the steady flow of individuals' decisions, actions and experiences, which modify their "biographical states." That is, the lifecourse is driven by the intentional and sub-intentional action and behavior of individuals. Intentional behavior is an expression of the fact that human beings are capable of purposeful, reflected action. An explanation of individuals' reproductive decisions, even one that emphasizes the dependence of these reproductive decisions on the intricate intersections of time, domains and levels in the cube, must rest on a theory of human behavior. The same is true of any other behavior central to the field of demography.

One reasonable point of departure for such a theory is the assumption that human beings constantly strive for individual wellbeing according to the decision criteria that they believe to be sound guidelines for conducting their lives in an optimal way. Of course, it is important to remember that "[w]hether and to what extent a welfare goal is actively pursued depends on actors' resources and internal states, as well as on their perception of external conditions, including their perceived chance to actually achieve the goal" (Huinink and Kohli, 2014, p. 1299). These variables in the individual's view change as they grow older and are simultaneously affected by historical and environmental conditions. In anticipating the consequences of their behavior, or in observing changes in their environment, individuals try to achieve as much certainty as possible in what to do or look for next. What individuals perceive as "good reasons" to act depend on both the shadow of the past (for example, prior experiences and outcomes) and the shadow of the future (for example, anticipations and expectations), as they try to find a subjectively satisfactory balance between investments in and gains from their actions and a satisfactory level of wellbeing.

Individual agency is therefore central to understanding the lifecourse (see also Hitlin and Kwon, 2016) and to the time axis, as we suggested above in our reference to the shadows of the past and the future. Any conception of agency must be anchored in time, as an individual's perceived horizons for action depend on it. For some phenomena, one might take a *lifetime orientation* that places action within the context of many years or even the whole of life, with the recognition that time is progressive and that some things about life are inevitable or cannot be repeated or undone; down to an *everyday orientation*, which places action within hours or days, with the recognition that time is cyclical (Kohli, 2019). For example, the shrinking time horizon that comes with aging, or time left to live, may lead individuals to prioritize certain decisions and goals, placing a premium on those that are both manageable and maximize meaning (Carstensen *et al.*, 1999). Historical change, as another dimension of time, also

influences agency – a case in point being that the process of individualization and the trend toward neoliberalism in many societies have over many decades reinforced the notion that people are the architects of their own lives and responsible for their outcomes, good or bad (Kohli, 2019; Settersten, 2017). Human agency is also profoundly affected by interpersonal relationships and other social factors: at all times in life, the choices we face and our ability to act are heavily constrained or opened up through our interdependencies with other people (Landes and Settersten, 2019).

### 2.3 THE LIFE COURSE CUBE AND COHORT ANALYSIS IN DEMOGRAPHY

Ernst Bloch’s famous expression “*Gleichzeitigkeit des Ungleichzeitigen*” (“the simultaneity of the non-simultaneous” or “the synchronism of the non-synchronous”) captures the idea that different pasts coexist in the present (Bloch, 1935 [1962], p. 104). This polyptoton perfectly illustrates the fact that successive birth cohorts, with their unique historical positions and collective life histories, are present in society at the same time but have been subject to different expectations and opportunities and are characterized by distinct life patterns.

In demographic research, so-called age-period-cohort analysis – better known as APC analysis – has been developed to estimate the impact of cohort-specific behavioral patterns on demographic events net of age-related trends (age effects) and the effects of contemporary macro-level conditions (period effects). Cohort effects should in principle capture the level and time interdependencies of demographic phenomena. APC analysis has been widely used by demographers because the decomposition of demographic rates according to these three factors promised to provide an estimation of the relative weight of influence of age, period and cohort components.

However, APC methods have been subject to fierce criticism because of the inherent “identification problem” that results in such decomposition: APC aims to disentangle three dimensions of time (age, period and cohort) but suffers from the fact that its basic indicators are linearly dependent on each other (Mason and Fienberg, 1985; Yang and Land, 2013). That is, in using age and cohort, one can identify period – and so on for the other permutations. As a consequence, the estimated linear trends cannot be attributed uniquely to either age, period or cohort because, in relying on the same information, they are substantially redundant. This identification problem remains an active challenge for the field. An equally problematic limitation to understanding demographic change is that it exclusively relies on macro-level indicators to account for macro-level changes.

The life course cube therefore extends APC analysis in many respects. First, it addresses the time interdependencies and coexistence of different anticipated futures in the present – in various life domains and at different interrelated levels. Second, it makes evident the fact that demographic phenomena have a strong foundation in micro phenomena, and that individual behavior is inherently linked to demographic structures and processes. Third, the succession of cohorts, as aggregates of individuals over time, can be analysed as one specific level of societal development, representing an independent driver of demographic change.

In APC analysis, “cohort” is used as a proxy for particular macro-level experiences of members of a given birth cohort. The life course cube explicitly addresses how past historical experiences interact with processes at other levels and in all life domains. Similarly, in

APC analysis, “period” is used as a proxy for current macro-level conditions. The life course cube incorporates information on current conditions at multiple levels and domains, as well as potential consequences for the future. In APC analysis, “age” is not as clearly specified and refers to age-specific factors. The life course cube conceptualizes different aspects of age, such as “physiological,” “developmental” and “social” ages (for example, reflected in inner-individual developmental states or the timing of life events), which can be addressed autonomously via age-specific factors that are anchored in such dimensions.

An important aspect of the study of demographic change is the question of the simultaneous presence of multiple birth cohorts, which constitute the social environment for any given individual (see also Chapter 7 in this volume). Path dependency in socialization processes (individual level) and demographic processes (supra-individual level) results from the continuous flow of interacting cohorts or “generations” that are born into a society, grow up and get older, and eventually die (for example, Mannheim, 1928 [1952]; Ryder, 1965; Alwin and McCammon, 2004). Particularly relevant is the transmission of values and behaviors across generations in families (Boehnke, 2001). Conventional wisdom is that socialization and demographic change happen in predictable, orderly, and almost inertial ways through population momentum from one generation to the next.

However, a multidimensional account of cohort changes has to consider the simultaneous changes in all domains as well as their macro-level counterparts, such as economy, technology, education, norms and culture (Mayer and Huinink, 1990). Changes in some areas at the societal level may occur faster (such as economic, political and technological changes) or slower (such as normative and cultural shifts). Depending on the degree or nature of interdependencies between demographic processes and macro changes of these kinds, changes in demographic behavior at the individual level may proceed with very different rhythms and therefore be far less inertial than is generally forecasted. An example is the fertility decline in the German Democratic Republic after reunification in 1990 (Huinink et al., 2012). Radical societal change initially caused a moratorium in fertility for all cohorts, despite the fact that they were in very different phases of their reproductive careers. Older cohorts, born in the 1960s, discontinued family development or delayed the birth of another child; younger cohorts, born after 1970, delayed family formation. In the long run, fertility patterns (timing and number of children) in the East did not completely assimilate to those in West Germany, even among members of cohorts born in the 1980s and later. This was because they were socialized to the Eastern cultural script of the lifecourse (Bernardi et al., 2008). The same was true of the prevalence of births outside of marriage and the employment of mothers, based on attitudes transmitted from one generation to the other. The East–West contrast might have been even more pronounced if economic development and labor market opportunities in East Germany had become more prosperous.

## 2.4 EXPLAINING DEMOGRAPHIC CHANGE: A CRITICAL REVIEW

The cube advances explanations of demographic change by focusing on micro to macro interdependencies through time. Even though demographic change can be approached as one dimension of social change, it is often conceived as year-to-year changes in indicators of population structure and composition, such as changes in sex and age structure, the distri-

bution of living arrangements, an administrative or place-based unit of interest. Despite the fact that such changes are obtained by aggregating relevant events in individuals' lifecourses (for example, births, union beginnings and endings, residential changes and deaths), classic demographic explanations for demographic change have rarely taken a lifecourse perspective.

Instead, the field has more often conceptualized demographic change as transitions between sweeping demographic "regimes" from the 18th century onward. These regimes can be described by a relatively coherent profile of demographic parameters that reflect a given demographic equilibrium. The First Demographic Transition (FDT) was characterized by an initial period of high fertility and high mortality, followed by a high rate of population growth, and ending with a period of low fertility and low mortality and a moderate rate of population growth (Notestein, 1945; Coale and Watkins, 1986). This approach – of treating demographic change in terms of broad societal changes across big historical eras – does not provide a nuanced or detailed picture of the mechanisms behind the change. Notestein (1945), for example, offered macro-level explanations to account for the FDT, seeing it as the consequence of the industrialization and urbanization process. The more rapid decline of mortality rates compared to fertility rates, according to Notestein, suggested that changes in fertility were additionally sensitive to cultural norms. Sociologists pointed to the emergence of the traditional gender regime during modernization. This regime, which created the "isolated nuclear family" or "conjugal family" (Parsons, 1943), channeled men's responsibilities into "breadwinning" and women's responsibilities into domestic life – and therefore left fertility more resistant to change.

The Second Demographic Transition (SDT), roughly from the post-World War II period forward, has been deemed to have distinct phases of change in demographic phenomena: an early phase marked by an increase in divorce and decreases in fertility and age at marriage; a second phase marked by an increase in premarital cohabitation and non-marital fertility; and a third phase marked by a decrease in remarriage and childbearing at later ages (for example, Lesthaeghe, 1995). The SDT is a "lowest-low" fertility/low mortality regime with lower marriage rates, higher rates of unmarried cohabitation, and much later ages of family formation (for an overview, see Zaidi and Morgan, 2017). Once again, to account for the SDT, demographers were quick to point to macro-level explanations, especially ideational change toward post-materialistic values (Inglehart, 1977, 1997) and the rise of an egalitarian gender regime with high female labor force participation (Lesthaeghe, 1995, 2014).

Economists added micro-level or multilevel perspectives to explain demographic change, and particularly fertility change. In the case of the FDT, for example, economists Brentano (1909) and Leibenstein (1957) argued that it was the increasing level of wellbeing in industrializing societies that accounted for demographic change. Modernization brought increased opportunities to improve people's "welfare production" and to have more children. Increased standard of living raised individual aspirations and changed individual behavior, which in turn altered macro-level demographic outcomes. Examining family change during the SDT, economist Becker (1991) offered a micro-level theory to explain the decline of marriage and fertility rates and the increase in divorce rates: because the traditional division of labor among couples had deteriorated, and because the income prospects of women in the labor market had increased, there were fewer incentives to marry and have children. Other individual-level explanations based on values and beliefs were added over the years (Birg, 1991; Ajzen and Klobas, 2014; Nauck, 2014).



A comprehensive socio-demographic approach to a theory of family change, one that includes attention to the lifecourse, has been presented by Johnson-Hanks and colleagues (2011). Their interdisciplinary “Theory of Conjunctural Action” (TCA) is founded on a theory of human behavior similar to the one underlying the life course cube. They assume that demographic actions take place in complex, multidimensional situations or “conjunctions” – that is, proximal contexts of social action that are shaped by structures emerging at each point in historical time and individual lifecourses. Individual actors perceive or construe these conjunctions from their perspectives and behave accordingly. This seems closely aligned with our view that the lifecourse is made through the intersections of levels, domains and time represented in the cube and understood from the actor’s vantage point. To the best of our knowledge, however, such an approach has never been applied to empirical research on fertility, nor has it been systematically developed in the frame of a lifecourse theory.

Astonishingly, the lifecourse perspective has not played a prominent role in demographic transition theories, despite its growing role in framing empirical research on fertility. And yet, the increased attention to cohorts in demography brought to the forefront the commonalities between the study of demographic change and of larger social change – which became important components of lifecourse research. The Lexis diagram, which displays the crossing of the aggregated individual events (like births) of cohorts by year and age, proved to have much larger application beyond being a tool to calculate risks of exposed populations. It indicated the crossing of micro and macro phenomena through two different dimensions of time: individual (biographical) time and historical time. The principle of *timing* – that is, that life events and transitions are inherently different, and have different predictors and consequences, depending on the ages at which they occur – emerged as a hallmark of lifecourse inquiry (for example, Elder, 1994). Indeed, the timing of demographic events, such as unions and births, in the lifecourse became central preoccupations in social demography and its view of demographic change. This raised awareness of the crucial differences between period-based cross-sectional measures of demographic phenomena versus cohort-specific longitudinal measures (Bongaarts and Feeney, 1998; Kohler and Ortega, 2002).

Besides timing, another relevant concept that traveled from the sociology of age and the lifecourse into demographic change is that of age stratification (Riley, 1974). This framework pointed to age as a key component of social structure and social change and prompted demographers to begin looking more closely at the social forces that alter the ages at which people form unions, have children, fall ill or die.

Meanwhile, several lifecourse scholars have systematically probed the interrelation between changing lifecourses and changing social regimes and, in particular, demographic regimes (Kohli, 1985, 2007; Mayer, 2004). For example, sociologists have argued that the process of modernization in Western (welfare) states can be traced from premodern, preindustrial society, to modern, industrial and then Fordist societies, and finally to post-Fordist individualized societies (Mayer, 2004). As societies moved through this process, early phases resulted in a higher level of standardization and institutionalization of the lifecourse, but later phases resulted in greater de-standardization (Brückner and Mayer, 2005) and de-institutionalization (Kohli, 2007).

Distinct *types* of welfare regimes correspond to distinct lifecourse patterns and to distinct patterns of demographic behavior. Changes in lifecourse regimes encompass changes in nuptiality, fertility, morbidity and mortality, as well as spatial mobility, which lead to demographic changes on the macro level. This inserts demographic change into a broader process of social

change and underscores the mutual interaction of macro-level phenomena and individual behavior over time. Fertility, social mobility, health behavior and other demographic processes are then understood as particular cases in a larger set of interdependent life domains. Mayer (2004, p. 166) also hypothesized the “self-referential” nature of lifecourses, where path dependency and cumulative effects channeled or even determined the occurrence and the timing of demographic outcomes. Notions of path dependency and the accumulation of advantage and disadvantage are now key concepts in lifecourse research (DiPrete and Eirich, 2006).

Methodologically, the more explicit application of a lifecourse perspective to demographic questions was to be found in event history analysis which, with its focus on the timing of event occurrence, allowed researchers to overcome the restrictions of the APC models and to some extent incorporate dynamics related to path dependence. However, attention was largely paid to time-related interdependencies – relative to interdependencies of either the level or domain axes of our cube – and certainly not to the interdependencies that cross the axes of the cube. As we have already shown, these axes are closely intertwined. A second neglected aspect was that the inner-individual processes (genetic makeup and epigenetic processes, psycho-emotional regulation, physiological development) play crucial roles in lifecourse dynamics and demographic outcomes.

## 2.5 THE LIFE COURSE CUBE AS A TOOL TO INTEGRATE RESEARCH ON DEMOGRAPHIC CHANGE

Any specific aspect of demographic change, such as variations in fertility, migration and mortality, can be located at the supra-individual level in the life course cube as part of more general social change. The life course cube provides a coherent approach to addressing demographic change by connecting it to its inner-individual and meso-level determinants and by reading it as a process of interdependencies across lifecourse domains and levels of analysis through time. We now provide a few illustrations, especially drawing examples from fertility research. This exercise can easily be extended to other fields of demography, such as migration and mortality.

The changing prevalence of various civil statuses in a population, of much relevance for changes in fertility, depends on the shifting proportion of married and unmarried unions as well as the incidence of union dissolutions and the formation of subsequent unions. Macro-level phenomena of this kind are in turn the direct consequences of individual-level decisions to marry or separate, based on past and anticipated benefits and costs that such decisions may have for health and wellbeing or any other positive and negative spillovers that they may produce in the individuals’ own lives or the lives of close others (for example, changes in residence, employment, quality of relationships). While these are all shaped by current institutional and demographic conditions, they are clearly anchored in processes at the inner-individual level – for example, as relevant aspects of personal development and maturation or as reflective of personality or one’s propensity to take risks. These, in turn, are shaped by meso-level processes, such as the influence of union and childbearing norms (Bernardi, 2003; Bernardi and Klärner, 2014). Dynamic mechanisms can “loop” domains and levels, as in the case of the relationship between fertility decline and the opportunity for social and demographic change. The empirical literature has established that a decrease in the number of children modified the structure of social networks, which in turn affected processes of social influence: Kin contact

declined with industrialization and major demographic transitions (Murphy, 2011) and, it has been argued, as kin were replaced by friends, the enforcement of norms eroded and was over time substituted by the emergence of legal institutions meant to do so (David-Barrett, 2019). Far from being exhaustive, these examples serve as illustrations of the fact that the dynamic interaction of levels and domains *produces* demographic change. Similar observations can be made for the intensification and globalization of migration flows, for shifting life expectancy and historical changes in the relevance of specific causes of mortality.

Besides multilevel interdependencies, multidomain interdependencies also matter for demographic change, insofar as the demographic issues of interest (for example, fertility, spatial mobility) are strongly related to the domain-specific activities and behaviors of individuals (for example, work, leisure time, health behavior, religiosity), and vice versa. The cube's horizontal axis, which represents the multiplicity of life domains, corresponds to the inherent multidimensional and dynamic characteristic of demographic change – for example, where changes in fertility rates (family domain) produce changes in the age composition of the future population and mortality (health domain), or where changes in migration rates (residential domain) often produce changes in fertility and union dynamics (family domain) as well as differential health and mortality (health domain). The individual-level counterpart of this multidimensionality is that several parallel trajectories together compose a single lifecourse, which crosses with others in couples, in families and communities (that is, through “linked lives,” a key principle of a lifecourse perspective). The growing literature on the interrelatedness of fertility and spatial mobility in the forms of international and internal migration (for example, Schneider and Collet, 2010; Vidal et al., 2017; Kulu et al., 2019) is an example of how studying one aspect of demographic change requires connecting it to other social behavior and phenomena.

The vertical multilevel axis of the cube again makes immediately apparent the need to connect such trajectories to institutional forms and regulations at the supra-individual level; that is, to tend to the influence of a society's power relationships and social norms related to family, ethnicity and gender, labor market and economy, and religion. These all affect and provide conditions under which individuals combine and weigh the relative value of different life domains in relation to each other. Particularly relevant in this respect are the second-order interdependencies between levels and domains in the cube. These point to the need to consider possible inconsistencies between the supra-level organization of social life in different domains (and its demands on individuals to combine them in socially expected ways) and the reality that people's lives, whether by choice or circumstance, do not always meet these expectations. Such inconsistencies may manifest in unpredictable demographic shifts. One example of the power of reading demographic change through these multiple layers of interdependencies in the lifecourse is Peter McDonald's (2000) insightful explanation for the low levels of fertility in Southern Europe during the 1990s. He points to the disconnect between gender equity at the supra-institutional level, in which men and women were treated equally as workers and citizens; and the simultaneous lack of gender equity in the family sphere, in which the daily responsibilities for care to young children or parents were largely shouldered by women and reinforced in gendered leave policies. With a similar frame, one can explain the presence of higher fertility levels in countries where, on the one hand, gender equality between men and women is absent in both the public and private sphere; and where, on the other hand, it is coherently implemented and practiced in all spheres of life (Esping-Andersen, 2016).

Multilevel and multidomain interdependencies are also heavily enmeshed with time, whether historical time (change across years) or individual biographical time (change across ages). Level- and domain-specific phenomena operate under different time scales and therefore have different rhythms or accelerations or delays (“the simultaneity of the non-simultaneous,” as discussed earlier). Demographic research will be enriched by measuring and analysing these different time scales with greater precision, as demographic change is strongly determined by time-related interdependencies. It is a path-dependent process – not only because demographic momentum is a structural effect but also because, as shown in the cube, there are horizontal path dependencies across interrelated domains and vertical path dependencies across interrelated levels of analysis. On the macro level, the Princeton Fertility Project revealed impressive and diverse demographic change within and between Western countries during the late 19th and early 20th centuries (FDT) (Coale and Watkins, 1986). This would not have been possible if researchers had not taken a strong historical view (Lesthaeghe and Surkyn, 2007). Also relevant here is Lesthaeghe and Neels’s (2002) analysis of the remarkable stability of the differences in regional fertility patterns during the FDT and the SDT. They explained this continuity as stemming from action at the individual level, where greater freedom from normative constraints made personal decision-making more possible, giving rise to new forms of behavior and its diffusion over time.

Another important aspect of time interdependency is the relevance of anticipation in individual decision-making, which has only recently been included in demographic explanations of change but is central to human experience. One exception is the theoretical approach that emphasizes that the anticipation of future opportunities (options to improve wellbeing in a variety of life domains) plays a decisive role in explaining the timing of fertility (Birg, 1991). In the long arc of history, one can generally observe greater life options and opportunities in a society. One problematic aspect of an increasingly individualized lifecourse is uncertainty. That is, it creates conditions that make it more difficult to visualize or expect what one’s future holds. There is a growing literature studying how economic uncertainty affects fertility, suggesting that economic uncertainty delays or limits fertility (for example, Kreyenfeld et al., 2012). However, an influential theoretical paper addressed the relevance of anticipation for demographic behavior differently, suggesting that uncertainty about the future may increase fertility (Friedman et al., 1994). That is, in the face of other kinds of uncertainty, individuals may exert control by acting sooner on their parenting intentions and therefore reduce uncertainty of other kinds – even, or especially, when they anticipate limited prospects in other life domains, such as employment. Consequentially, demographic change is never likely to be a smooth process because of contradictions created by the different rates of change in phenomena in distinct domains or at distinct levels, as the research by McDonald, mentioned above, illustrates. Similarly, the very description of the FDT brings about the need to consider processes that have a different pace: behavioral change due to technical innovations that improved life conditions (reducing mortality risks) moved more swiftly than behavior that was heavily regulated by deep-seated values and norms, such as sexuality, which in turn slowed those changes that might otherwise have occurred in fertility.

## TOWARD A LIFECOURSE IMAGINATION

The examples in this chapter call for a sound and simultaneous consideration of the multidimensional, multilevel and time dimensions of demographic change, both theoretically and empirically. The complexity modeled in the life course cube is not only relevant for the study of fertility, on which we have focused, but also for other areas of demographic research. The life course cube teaches us how to look behind the dynamics of fertility, nuptiality, mortality and migration from a differentiated but nonetheless comprehensive lifecourse perspective. The cube serves as a guide for demographic research because it provides three fundamental axes – levels, domains and time – within which to place and analyse phenomena, and to identify key interdependencies of and across these axes. The cube can foster a new vision for the field, both in visualizing and mastering the complexity of our subjective matter in a more systematic way. It allows demographers to engage with the interdependencies that connect past, present and future, and that connect processes and outcomes that occur in different life domains and across inner-individual, individual and supra-individual levels. As C. Wright Mills (1959, p. 3) observed 60 years ago, “neither the life of an individual or the history of a society can be understood without understanding both.” Paraphrasing Mills, neither demographic change nor individual change can be understood without understanding both. Demographers have much to gain in developing a lifecourse imagination, just as lifecourse scholars have much to gain in developing a demographic imagination.

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## NOTE

1. To complete the differentiation between the inner-individual, individual, and supra-individual levels – which are analytically distinct – one can of course specify additional layers in between (for example, partnerships, social networks, work environments). Because each layer can and should be analysed in relation to the others, the multiplication of levels does not diminish the heuristic value of the vertical axis of the cube (that is, the need to identify interdependencies of processes across levels).

## REFERENCES

- Ajzen, I. and J. Klobas (2014), “Fertility intentions: an approach based on the theory of planned behavior”, *Demographic Research*, **29**, 203–32.

- Alwin, D.F. and R.J. McCammon (2004), "Generations, cohorts, and social change", in J.T. Mortimer and M.J. Shanahan (eds), *Handbook of the Life Course*, New York: Kluwer Academic/Plenum Publishers, pp. 23–49.
- Becker, G.S. (1991), *A Treatise on the Family*, Cambridge, MA: Harvard University Press.
- Bernardi, L. (2003), "Channels of social influence on reproduction", *Population Research and Policy Review*, **22**, 527–55.
- Bernardi, L. and A. Klärner (2014), "Social networks and fertility", *Demographic Research*, **30**, 641–670.
- Bernardi, L., A. Klärner, and H. von der Lippe (2008), "Job insecurity and the timing of parenthood: a comparison between Eastern and Western Germany", *European Journal of Population*, **24** (3), 287–313.
- Bernardi, L., G. Bollmann, G. Potârcă, and J. Rossier (2017), "Multidimensionality of well-being and spillover effects across life domains: how do parenthood and personality affect changes in domain-specific satisfaction?", *Research in Human Development*, **14**, 26–51.
- Bernardi, L., J. Huinink, and R.A. Settersten, Jr (2019), "The life course cube: a tool for studying lives", *Advances in Life Course Research*, **41**, 1–13.
- Birg, H. (1991), "A biographic/demographic analysis of the relationship between fertility and occupational activity for women and married couples", in J.J. Siegers, J. de Jong-Gierveld, and E. van Imhoff (eds), *Female Labour Market Behaviour and Fertility*, Berlin/Heidelberg: Springer, pp. 133–57.
- Bloch, E. (1935), *Erbschaft dieser Zeit*, reprinted in 1962, Frankfurt: M. Suhrkamp.
- Boehnke, K. (2001), "Parent-offspring value transmission in a societal context: suggestions for a utopian research design – with empirical underpinnings", *Journal of Cross-Cultural Psychology*, **32** (2), 241–55.
- Bongaarts, J. and G. Feeney (1998), "On the quantum and tempo of fertility", *Population and Development Review*, **24** (2), 271–91.
- Brentano, L. (1909), "Die Malthussche Lehre und die Bevölkerungsbewegung der letzten Dezennien", *Abhandlungen der historischen Klasse der Königlichen Bayerischen Akademie der Wissenschaften*, **24**, 565–625.
- Brückner, H. and K.U. Mayer (2005), "De-standardization of the life course: what might it mean? And if it means anything, whether it actually took place", in R. Macmillan (ed.), *The Structure of the Life Course: Standardized? Individualized? Differentiated?* (Advances in Life Course Research, Vol. 9), Amsterdam: Elsevier, pp. 27–53.
- Carstensen, L.L., Isaacowitz, D. M., & Charles, S.T. (1999), "Taking time seriously: A theory of socio-emotional selectivity", *American Psychologist*, **54**, 165–81.
- Coale, A.J. and S.C. Watkins (eds) (1986), *The Decline of Fertility in Europe*, Princeton, NJ: Princeton University Press.
- David-Barrett, T. (2019), "Network effects of demographic transition", *Scientific Report Nature*, **20** (1).
- DiPrete, T.A. and G.M. Eirich (2006), "Cumulative advantage as a mechanism for inequality: a review of theoretical and empirical developments", *Annual Review of Sociology*, **32**, 271–97.
- Elder, G.H. Jr (1994), "Time, human agency, and social change: perspectives on the life course", *Social Psychology Quarterly*, **57** (1), 4–15.
- Esping-Andersen, G. (2016), *Families in the 21st Century*, Stockholm: SNS-Förlag.
- Friedman, D., M. Hechter, and S. Kanazawa (1994), "A theory of the value of children", *Demography*, **31** (3), 375–401.
- Hitlin, S. and H.W. Kwon (2016), "Agency across the life course", in M.J. Shanahan, J.T. Mortimer, and M.K. Johnson (eds), *Handbook of the Life Course*, Vol. II, New York: Springer, pp. 431–49.
- Huinink, J. and M. Kohli (2014), "A life-course approach to fertility", *Demographic Research*, **30**, 1293–326.
- Huinink, J., M. Kreyenfeld, and H. Trappe (2012), "Familie und Partnerschaft in Ost- und Westdeutschland. Eine Bilanz", *Zeitschrift für Familienforschung/Journal of Family Research*, **9**, 9–28.
- Inglehart, R. (1977), *The Silent Revolution: Changing Values and Political Styles in Advanced Industrial Society*, Princeton, NJ: Princeton University Press.
- Inglehart, R. (1997), *Modernization and Postmodernization: Cultural, Economic and Political Change in 43 Societies*, Princeton, NJ: Princeton University Press.

- Johnson-Hanks, J.A., C.A. Bachrach, S.P. Morgan, and H.-P. Kohler (2011), *Understanding Family Change and Variation. Toward a Theory of Conjunctural Action*, Dordrecht, Heidelberg, London, New York: Springer.
- Knecht, M. and A.M. Freund (2016), "The use of selection, optimization, and compensation (SOC) in goal pursuit in the daily lives of middle-aged adults", *European Journal of Developmental Psychology*, **14** (3), 350–66.
- Kohler, H.-P. and J.A. Ortega (2002), "Tempo-adjusted period parity progression measures, fertility postponement and completed cohort fertility", *Demographic Research*, **6**, 91–144.
- Kohli, M. (1985), "Die Institutionalisation des Lebenslaufs. Historische Befunde und theoretische Argumente", *Kölner Zeitschrift für Soziologie und Sozialpsychologie*, **37** (1), 1–29.
- Kohli, M. (2007), "The institutionalization of the life course: looking back to look ahead", *Research in Human Development*, **4** (3–4), 253–71.
- Kohli, M. (2019), "The promises and pitfalls of life-course agency", *Advances in Life Course Research*, **41**, 1–3.
- Kreyenfeld, M., G. Andersson, and A. Pailhé (2012), "Economic uncertainty and family dynamics in Europe: introduction", *Demographic Research*, **27**, 835–52.
- Kulu, H. and N. Milewski (2007), "Family change and migration in the life course: an introduction", *Demographic Research*, **17**, 567–90.
- Kulu, H. and E. Washbrook (2014), "Residential context, migration and fertility in a modern urban society", *Advances in Life Course Research*, **21**, 168–82.
- Kulu, H., N. Milewski, T. Hannemann, and J. Mikolaj (2019), "A decade of life-course research on fertility of immigrants and their descendants in Europe", **40**, 1345–74.
- Landes, S. and R.A. Settersten, Jr (2019), "The inseparability of human agency and linked lives", *Advances in Life Course Research*, **42**, 1–10.
- Leibenstein, H. (1957), *Economic Backwardness and Economic Growth*, New York: Wiley.
- Lesthaeghe, R. (1995), "The second demographic transition in Western countries", in K. Oppenheim Mason and A.M. Jensen (eds), *Gender and Family Change in Industrialized Countries*, Oxford: Clarendon Press, pp. 17–62.
- Lesthaeghe, R. (2014), "The second demographic transition: a concise overview of its development", *Proceedings of the National Academy of Sciences of the United States of America*, **111** (51), 18112–15.
- Lesthaeghe, R. and K. Neels (2002), "From the first to the second demographic transition: an interpretation of the spatial continuity of demographic innovation in France, Belgium and Switzerland", *European Journal of Population*, **18** (4), 325–60.
- Lesthaeghe, R. and J. Surkyn (2007), "When history moves on: the foundations and diffusion of a second demographic transition", in R. Jayakody, A. Thornton, and W. Axinn (eds), *International Family Change: Ideational Perspectives*, New York: Lawrence Erlbaum, pp. 91–118.
- Mannheim, K. (1928), "The problem of generations", reprinted (1952) in P. Kecskemeti (ed.), *Essays on the Sociology of Knowledge: Collected Works*, Vol. 5, New York: Routledge, pp. 276–322.
- Mason, W.M. and S. Fienberg (eds) (1985), *Cohort Analysis in Social Research*, New York: Springer.
- Mayer, K.U. (2004), "Whose lives? How history, societies, and institutions define and shape life courses", *Research in Human Development*, **1**, 161–87.
- Mayer, K.U. and J. Huinink (1990), "Age, period, and cohort in the study of the lifecourse: a comparison of classical A-P-C-analysis with event history analysis, or farewell to Lexis?", in D. Magnusson and L.R. Bergman (eds), *Data Quality in Longitudinal Research*, Cambridge: Cambridge University Press, pp. 211–32.
- McDonald, P. (2000), "Gender equity in theories of fertility transition", *Population and Development Review*, **26** (3), 427–39.
- Mills, C.W. (1959), *The Sociological Imagination*, New York: Oxford University Press.
- Murphy, M. (2011) "Long-term effects of the demographic transition on family and kinship networks in Britain", *Population and Development Review*, **37**, 55–80.
- Nauck, B. (2014), "Value of children and fertility: results from a cross-cultural comparative survey in eighteen areas in Asia, Africa, Europe and America", *Advances in Life Course Research*, **21**, 135–46.
- Notestein, F.W. (1945), "Population – the long view", in T.W. Schultz (ed.), *Food for the World*, Chicago, IL: University of Chicago Press, pp. 36–57.

- Parsons, T. (1943), "The kinship system of the contemporary United States", *American Anthropologist*, **45**, 22–38.
- Perelli-Harris, B. and L. Bernardi (2015), "Exploring social norms around cohabitation: the life course, individualization, and culture: Introduction to Special Collection: 'Focus on Partnerships: Discourses on Cohabitation and Marriage throughout Europe and Australia'", *Demographic Research*, **33**, 701–32.
- Riley, M. (1974), "The perspective of age stratification", *The School Review*, **83** (1), 85–91.
- Ryder, N.B. (1965), "The cohort as a concept in the study of social change", *American Sociological Review*, **30** (6), 843–61.
- Schneider, N.F. and B. Collet (eds) (2010), *Mobile Living across Europe II. Causes and Consequences of Job-Related Spatial Mobility in Cross-National Comparison*, Opladen: Verlag Barbara Budrich.
- Settersten, R.A., Jr (2017), "Some things I have learned about aging by studying the life course", *Innovation in Aging*, **1** (2), 1–7.
- Settersten, R.A., Jr and A. Thøgersmøntz (2018), "Flux: insights into the social aspects of life transitions", *Research in Human Development*, **15** (3–4), 360–73.
- Shreffler, K.M. and D.R. Johnson (2013), "Fertility intentions, career considerations and subsequent births: the moderating effects of women's work hours", *Journal of Family and Economic Issues*, **34** (3), 285–95.
- Sobotka, T. (2017), "Post-transitional fertility: childbearing postponement and the shift to low and unstable fertility levels", Vienna Institute of Demography Working Papers 1/2017, Vienna.
- Thévenon, O. (2011), "Family policies in OECD countries: a comparative analysis", *Population and Development Review*, **37** (1), 57–87.
- Tomasik, M.J. and R.K. Silbereisen (2016), "Demands of social change across multiple domains of life and across time at the advent of the global financial crisis", *Research in Human Development*, **13** (4), 312–27.
- Vidal, S., J. Huinink, and M. Feldhaus (2017), "Fertility intentions and residential relocations", *Demography*, **54** (4), 1305–30.
- Yang, Y. and K.C. Land (2013), *Age-Period-Cohort Analysis: New Models, Methods, and Empirical Applications*, Boca Raton, FL: CRC Press.
- Zaidi, B. and S.P. Morgan (2017), "The Second Demographic Transition theory: a review and appraisal", *Annual Review of Sociology*, **43**, 473–92.



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## 3. Lifecourse and social inequality

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### 3.1 INTRODUCTION

Lifecourse research provides the strongest bridge between demography and stratification research. The lifecourse approach shares long time horizons in research designs, longitudinal methods, including survival analysis and age-period-cohort models, and its interdisciplinary core with demography, but uses these approaches to study, among others, substantive questions about social inequality and mobility. The demographic version of the “lifecourse” pictures “demographic trajectories ... shaped by life events (from birth to death), and the timing of these life events ... influenced by the historical, political, and cultural context, the development of individuals, and their relationships with significant others” (Billari, 2015, p. S13). Lifecourse research extends this demographic idea of the lifecourse to events and transitions in education and working lives, and beyond transitions also to states (for example, unemployed, employed) and their longer-term sequencing across individual lives. The linkage of stratification and the lifecourse is particularly valuable in times of marked demographic change.

Lifecourse scholarship has traditionally been a hub for developing innovative longitudinal methods and continues to produce exciting new methodological propositions, including extensions of event history and sequence analysis, a proliferation of panel regression and latent growth curve models in lifecourse studies, and combinations of different methodological approaches in step-wise procedures (Brüderl et al., 2018; Piccarreta and Studer, 2018; Studer et al., 2018). This chapter concentrates on substantive research questions and conceptualizations of inequality outcomes from a lifecourse perspective, but we refer the reader to further literature on methodologies where appropriate.

In Section 3.2 we trace some of the theoretical and research traditions where social stratification and lifecourse intersected and then formulate core empirical questions of what one would like to know about the lifecourse dynamics of social inequality. In Section 3.3 we introduce the lifecourse paradigm and recent developments in lifecourse theory. We continue to outline four major areas in which the systematic consideration of lifecourse dynamics does and could further contribute to the study of social inequality: (1) lifecourse sensitive concepts and measures of social inequality; (2) the linkage between social-demographic processes and stratification; (3) the temporality of causal mechanisms; and (4) comparative aspects of change and cross-national differences in lifecourse/inequality regimes. In Section 3.4 we concentrate on the first of these four areas of why and how the study of social inequality can and actually must integrate lifecourse sensitive concepts and measures of inequality and mobility.

### 3.2 THE TRADITION OF STRATIFICATION AND LIFECOURSE RESEARCH: EMERGING RESEARCH QUESTIONS

Within lifecourse research, social inequality first came into the picture through the question of whether and how age groups form hierarchies in addition to inequality based on social class, race/ethnicity or gender. Matilda Riley and co-authors (1972) in particular elaborated the concept of age stratification: how resources are distributed between age groups and whether different age groups enjoy or command varying levels of social prestige. A large literature has examined inequality between age groups and generations, how welfare states shape age-graded lifecourses and, next to social classes, generate “welfare classes” of life stage-specific benefit recipients, including retirees, children or widowed (Diewald, 2016; Leisering, 2003; Mayer and Müller, 1986). A lively topic in this area was the presumption that an emergent “youth culture” shifted the attribution of social prestige to ever-younger age groups, whereas historically the elderly enjoyed higher prestige (Ehmer, 1990). Recently, population aging is shifting voting power to older age groups (Casamatta and Batté, 2016; Fasang, 2018) and placing additional financial burdens on the actively employed, possibly raising the relative social and economic status of elderly persons. Currently, solidarity and inequality between age groups is put to a brutal test in the 2020 COVID-19 pandemic.

Traditional stratification literature conceptualized social inequality as a categorical, relational or distributional societal structure at a given time or period. Hence, cross-sectional measurement was the means of choice to capture it empirically. Intergenerational social mobility was complementarily seen as the process of access to a given position or rank in the stratification system which – once achieved via a “transition” – was taken to be a relatively stable “destination.” A father–son or parent–child comparison in a mobility transition matrix matches such a view (Erikson and Goldthorpe, 2002). Some of the classic studies of intergenerational social mobility via transition matrices were initiated by demographers (Glass, 1954).

Schumpeter’s (1927, p. 170) famous bus or hotel metaphor depicts stratification or class structure as stable and persons as moving: Class structure is like an omnibus or hotel. It is always the same bus or hotel, but different persons are entering and leaving.<sup>1</sup> In a somewhat different manner, Max Weber’s (1956, p. 22) definition of “social” class defines classes as those categories (set of class locations) “within which moves are possible and frequent (between and within generations) and between which moves are difficult and infrequent.”<sup>2</sup> Again here relative stability and permanence is emphasized. Such comparative-static views were first partially overcome by the “status attainment process” tradition (Blau and Duncan, 1967; Featherman and Hauser, 1976; Sewell and Hauser, 1972; Sewell et al., 1969) in two respects. First, scholars in this tradition conceptualized access to class or status as a “process” of at least some length. Second, they paid more attention to the determinants, intervening factors and pathways in that process, especially education, training, aspirations and the first job. The notion of a specific age period when access to class or status is completed was echoed by the – for some time – dominant field of “transitions to adulthood” in lifecourse research (Buchmann and Kriesi, 2011; Furstenberg, 2010). Research on transitions to adulthood, including not only educational attainment and labor market entry, but also demographic trajectories of leaving the parental home and family formation, is one of the most fruitful collaborations between lifecourse sociology, social demography and stratification research.

One important contribution of lifecourse studies on social inequalities has been to fill deficits of description about how command over resources and the accumulation of valued goods,

which signify social inequality, unfold over the lifetime. Lifecourse research has uncovered many longitudinal aggregate-level regularities across individual lives and multiple generations that fall into the “discovery stage” of stratification research (Billari, 2015). Next to demographic analyses on family formation, migration, and aging and mortality, lifecourse studies have applied sophisticated longitudinal methods to trajectories of social attainment and their interrelationships with social-demographic processes over time.

The first applications of a lifecourse, or better a working life, perspective on social stratification focused on intragenerational social class mobility and career mobility over individual’s lives (Müller and Mayer, 1973). In one of the early attempts to link class mobility and the lifecourse, Mayer and Carroll (1987) take two distinct views of the relationship between class and mobility as their point of departure. One holds that class structure is the result of individual and collective mobility. Marx, for instance, sees the capitalist class structure as a result of the collective *déclassement* of small artisans and shopkeepers into the working class or the merging of the bourgeois intellectuals with the working class. At the extreme, high mobility rates can dissolve the class structure altogether as in Schelsky’s (1965) idea of one big middle class. The other view sees class and mobility as completely distinct: classes are constituted by modes of production and employment relationships and mobility has no consequences for the constitution of classes, but only for class identity and class conflict. In this view, intragenerational job mobility should be especially salient for class identity and coherence: intragenerational worklife or career mobility surely must have a stronger impact on class formation. Fluctuations across classes in the course of a career should undermine class loyalty as well as loosen any potential homogeneity in the material conditions or orientations of class. Conversely, if class boundaries can easily be transcended during a work life, then the salience of assumed class distinctions might well be questioned (Mayer and Carroll, 1987, pp. 14, 15).

Empirically, the reorientation of stratification research to intragenerational mobility raised new issues: In industrial societies, career class mobility takes the form of job shifts. Yet the relationship between class mobility and job mobility remains a sociological mystery ... How do classes differ in respect to job-shift patterns? Which classes protect members from the labor market and which classes expose them? (Mayer and Carroll, 1987, p. 15)

Based on then newly collected retrospective data from the German Life History Study (Mayer, 2015), Mayer and Carroll (1987) highlighted that indeed job turnover over the lifecourse varied greatly by social class in West Germany: lower classes, especially unskilled and semi-skilled workers shifted more between jobs than higher classes of non-manual and professional employees. Women experienced more job mobility and less class mobility than men, that is, they were locked into more disadvantaged class positions, but moved more between less secure and low quality jobs over the course of their lives. These findings highlighted the volatility of social class and job shifts over the lifecourse as additional dimensions of inequality that differ by classic markers of social inequality, including gender or ethnicity.

More generally, lifecourse studies have redirected research questions about social inequality to longer-term processes, within and between specific life stages. This in turn triggered conceptual and theoretical advances, and innovations in data collection including retrospective and prospective life history data, research designs and methods (Brüderl et al., 2018; Mayer and Tuma, 1990). The latter pushed lifecourse research closer to an “explanation stage” of how social attainment evolves over the lifecourse in different institutional, economic and normative

contexts (Billari, 2015) (see below). Core questions about social stratification and mobility from a lifecourse perspective include:

1. How stable are social class and status, or other expressions of inequality including income, wealth and health, across the entire lifecourse? How strong are processes of cumulative advantage and disadvantage, such that initial (dis)advantages are reinforced over time?
2. Should stratification be conceptualized and measured differently in various life stages? Does the salience of different dimensions of inequality vary across the lifecourse?
3. How deterministic are descriptive and causal relationships between early, intermediate and late stages of life? How “predetermined” are life outcomes at birth?
4. What are the most important mechanisms generating inequality across the lifecourse? Core mechanisms include genetics, epigenetics, health selection, infant and child development, education and training, labor force experience and career development, family formation or functional aging.
5. Are some inequality-generating mechanisms intrinsically linked to the lifecourse? For example, exposure to risk, accumulation of experience, cumulative advantage, investments/discounting and returns, or selective accumulation and compensation of advantage and disadvantage.
6. How effective are compensatory mechanisms for handicaps in early life? In which life periods are interventions most/least effective? Are ameliorative/curative or preventive social policies more powerful?
7. How is the socio-demographic life cycle, including differential fertility and longevity, related to inequalities across the lifecourse and the reproduction of inequalities across generations?
8. How do biological (organismic) and psychological (cognitive, emotional, personality) aging as well as social aging (socio-demographic developments) affect inequality? For example, is old age a “leveler” of social inequality?

### 3.3 CONCEPTS OF THE LIFECOURSE AND CONTRIBUTIONS TO THE STUDY OF SOCIAL INEQUALITY

Over the past decades, the lifecourse perspective provided a paradigm, not a scientific theory in a strict sense of deducing a coherent set of hypotheses from basic assumptions that can be empirically tested (Bernardi et al., 2019, p. 8). Elder and co-authors (2003) summarize five now classic heuristic principles of the lifecourse paradigm: (1) *life-long development*: development does not stop with adulthood, but continues over the entire lifecourse; (2) *agency*: individuals make choices within constraining opportunity structures; (3) *time and place*: different macro-structural conditions across historical time and locations shape individual lifecourses; (4) *timing*: causes and consequences of events in the lifecourse, such as entering or exiting employment, depend on their timing in the lifecourse; and (5) *linked lives*: lives are lived interdependently within networks of shared relationships. The *multidimensionality* of lives, including parallel and interdependent work, family, residential and health trajectories, is occasionally highlighted as an additional (6) principle.

These paradigmatic lifecourse principles proved to be sufficiently open to inform research questions and designs in a wide range of disciplines spanning anthropology, sociology,

psychology, demography, criminology and epidemiology, as well as numerous fields of application, many of which broadly addressed social inequality. At the same time, in some fields the “lifecourse” became a catch-all label for studies that relied on longitudinal research designs, lacking a clear theoretical core that would enable more cumulative research insights, especially across disciplines. Moreover, studies often built on oversimplified rational choice models to theorize individual agency that clearly had limited predictive power for observed empirical realities, in some substantive areas more so than in others (Fasang et al., 2016).

Recently, Bernardi and co-authors (2019 and in this volume) pushed for a more refined dynamic theory of the lifecourse that goes beyond basic principles and can be shared across disciplines. They propose the heuristic of a lifecourse cube defined by time, levels of analysis and life domains, within which individual lives are situated (p. 4). All possible interdependencies between each of the axes, for example, between time and life domains, delineate specific sets of questions and research problems that ought to be covered in comprehensive scholarship of lifecourses. Empirical research should tackle each of these interdependencies cumulatively to refine empirical knowledge and theoretical mechanisms that govern, for example, the interdependencies between levels of analysis and life domains – such as how institutional contexts (macro-level) structure possibilities to combine work and family over the lifecourse (interplay between two individual-level life domains) (see Aisenbrey and Fasang, 2017 for an application and Mayer 2019 for critical commentary).

With regard to conceptualizing and theorizing social inequality and mobility, the lifecourse perspective can make at least four contributions that deserve continued attention and refinement. First, by developing *lifecourse sensitive concepts and measurements* of social inequalities. Second, by highlighting and specifying *the interrelationships between social-demographic processes and social inequalities*, most notably fertility, family formation, and aging and mortality (Fasang, 2018; Maralani, 2013; Mare, 2011; Sakamoto and Powers, 2006). Third, by disentangling what we call the *temporality of causal mechanisms*: the unraveling of causal mechanisms that generate social inequality over time, their relative salience in different life phases and their patterns of temporal impact (Brüderl et al., 2018; Pötter and Blossfeld, 2001). Fourth, by establishing *cross-national differences and historical change* in social inequalities. In addition to identifying specific lifecourse and inequality regimes in given socio-historical situations, lifecourse studies have pushed forward more sophisticated comparative strategies across time and place often in targeted small N country comparisons that follow specific birth cohorts over time in the spirit of a “differential lifecourse sociology” (Mayer, 2005). In this chapter we focus on the first of these four areas, while the other contributions are elaborated elsewhere (see citations above).

### 3.4 LIFECOURSE SENSITIVE INEQUALITY OUTCOMES

What can a lifecourse perspective add to cross-sectional distributional measures of social inequality? Taking the basic premises of the lifecourse paradigm seriously and using individual-level longitudinal data highlights at least the following temporal dynamics of social inequality: (1) *Timing*: at which point in life do which type and extents of inequalities apply with which consequences? (2) *Duration*: how long do adversities and advantages last and how do they add up? (3) *Sequence*: in which order do states and positions, for example, of social class, occur? (4) *Direction and trajectories*: do status or other inequality outcomes change

over time and in which direction? How do trajectories cluster into typical socially stratified lifecourse patterns? Together (2), (3) and (4) mark overall *stability/volatility*: how unstable, regular or irregular are markers of social inequality? In the following we illustrate arguments for such extended lifecourse sensitive concepts and measurements of social inequality.

Cross-sectional measures of social inequality may contain errors because stocks and flows of socially valued goods change over time. Lifecourse studies have criticized cross-sectional measurement of social inequality based on two simple accounts. First, it is usually not feasible to define one appropriate age to measure social inequality. Second, the volatility of markers of social inequality across the lifecourse appears as a relevant outcome that should be analysed in its own right.

1. *Timing of inequality outcomes*: defining one appropriate age or time point to measure socially valued goods is usually not feasible, because the speed of relevant demographic processes, fertility, aging and mortality varies by social background (Billari and Liefbroer, 2010; van Raalte et al., 2012). For example, the timing and speed of transitions to adulthood, including age at first job and family formation, vary across countries and social classes, and have increased for younger cohorts. Measuring social origin effects of parent's social status at age 16 of the child could be a good proxy if all parents were in similar career stages, when their children are age 16, and if 16 is the age at which parent's resources matter most. Neither of these assumptions is plausible or supported empirically. Because the highly educated tend to become parents at later ages, they will be older and in more advanced career stages when their child is 16 compared to lower educated parents. In addition, parent's resources during early childhood, starting with pre-natal behavior and care, might be much more important compared to those at age 16, especially if processes of path dependency and cumulative advantage and disadvantage are at play (Dannefer, 2003; DiPrete and Eirich, 2006). The younger parents are when they have children, another demographic feature, the more unstable and inaccurate their occupational indicator at birth of the child likely is over the subsequent lifecourse of their children.
2. *Stability/volatility of inequality outcomes*: even if one could establish an appropriate age to measure socially valued goods, cross-sectional, or "point in time" measures (Abbott, 2016) could only be useful if trajectories predictably stabilized in similar ways for everyone after some point in the lifecourse. A massive empirical literature supports the opposite. Income tends to increase until mid-life and then declines in older working age and during retirement, but differently depending on social background and across countries. Income, employment and occupational prestige all fluctuate greatly after family events such as marriage, parenthood or divorce (Aisenbrey et al., 2009; Andress et al., 2006; Florian, 2018; Kahn et al., 2014; Gangl and Ziefle 2009). The stability of employment or income in turn affects the accumulation of wealth, credit worthiness, claims to retirement benefits and access to rental housing. Therefore, the volatility of outcomes over the lifecourse is in itself a major dimension of inequality in addition to relative "ranks."

Note that the normative implications of volatility of employment trajectories are by no means clear. On the one hand, more unstable employment lives could mark social advantages, if they are materially secured and signify voluntary changes between attractive jobs and times out of the labor force, for example, for sabbaticals. Careers of steep upward mobility are also volatile with repeated job shifts for promotions. On the other hand, employment volatility can simply signal precarity of involuntary moves between low quality jobs and unemployment (Kalleberg

and Vallas, 2017). How voluntary moves are seems to be a key component for assessing whether volatility indicates privilege and freedom or, on the contrary, precarity and a lack of opportunities (Nitsche and Mayer, 2013; Van Winkle and Fasang, 2017).

Once one gives up the idea that class or status are more or less fixed attributes, or in other words, if destination is seen as a life-long process (Karhula et al., 2019), then we would like to know more about the nature of this volatility: (a) how status or class changes across the lifetime; (b) whether these changes are monotonic, that is, upward, downward or stable; and (c) how changes distribute or concentrate within certain phases of the lifecourse and population sub-groups. Two conceptual and methodological distinctions are important: (1) between continuous and categorical inequality outcomes, and (2) between individual and group-based variability in trajectories of inequality outcomes. By group-based variability in trajectories we mean groups of similar trajectories that were identified because they follow similar pathways using a statistical procedure, such as cluster analysis. In this case, the groups are defined by a similar developmental experience. Individual-based variability is still generally expressed as group differences by membership to groups that are defined *a priori*, irrespective of the trajectory that they follow, for example by gender, cohort, or region. In the following we systematize lifecourse sensitive inequality outcomes, distinguishing between continuous and categorical, as well as individual versus group-based concepts. Figure 3.1 shows examples of continuous life course sensitive inequality outcome and analyses with a focus on individual based (top) and group based (bottom) variability in trajectories. Figure 3.2 shows examples for categorical life course sensitive inequality outcomes of analysis for the individual (top) and group-based case. The examples in Figure 3.1 and 3.2 all pertain to individuals as the central unit of analysis. Recent research has also fruitfully extended them to dyads to study social inequality in the context of linked lives of spouses, siblings or parents and their children (Fasang and Raab, 2014; Karhula et al., 2019; Langner, 2015; Nitsche and Grunow, 2016; Visser and Fasang, 2018).

Volatility in *continuous inequality* outcomes (in Figure 3.1) goes beyond accumulated summaries over the lifecourse, as prominently given with lifetime income or earnings (Bönke et al., 2015). In addition to income and earnings, major continuous inequality outcomes include the amount of lifetime spent in different social classes (Featherman et al., 1989), trajectories of occupational prestige (Härkönen et al., 2016; Manzoni et al., 2014; Stawartz, 2018), and wealth accumulation over the lifecourse (Killewald et al., 2017). While lifetime stocks of income, class or prestige offer longer-term accounts of individuals' position in a given inequality structure, they do not assess volatility in these trajectories.

A typical lifecourse analysis of continuous individual-based trajectories is demonstrated by Manzoni and co-authors (2014) in a growth curve analysis of occupational prestige, shown for women of different birth cohorts in Germany in the top panel of Figure 3.1. Results support both higher initial occupational prestige and steeper increases for younger cohorts. Another example is given by Cheng (2014) who proposes a lifecourse trajectory framework to assess within-cohort wage inequality between individuals in a cohort over their lifecourses (see Cheng, 2014, p. 669, figure 3). Findings show increasing wage inequality over time within given cohorts in the United States. It follows that short-term analyses in early adulthood understate the full extent of wage inequality that unfolds within a cohort over time. Taking an intergenerational perspective, Bönke and co-authors (2015) report that West German men born in 1960 experienced about 85 percent more lifetime earnings inequality compared to their

fathers, which is both due to longer unemployment spells and more upward mobility of the younger generation.

Damaske and Frech (2016) argue for conceptualizing variability in women's labor force attachment as typical pathways over the lifecourse. They follow a group-based trajectory approach (Nagin, 1999) to identify typical trajectories of women's work hours over the lifecourse (bottom panel Figure 3.1). This approach differs from panel regression and growth curve models in that it focuses on group-specific, rather than within-individual, trajectories of change in continuous outcomes over time (Damaske and Frech, 2016, p. 375). Findings show six typical pathways of women's work hours over the lifecourse in the United States that are jointly predicted by markers of cumulative advantage, gender beliefs and family-related opportunities and constraints. In a similar analysis of men's income trajectories and health at mid-life, Frech and Damaske (2019) identify eight groups that signify typical income trajectories with overall remarkable income rigidity. Only 25 percent show significant income mobility and most of it is downward and into poverty. Associations with mid-life health are strong and support the formative impact of early life disadvantage by triggering processes of cumulate disadvantage later on.

The concepts of lifetime stocks and volatility naturally lend themselves to continuous inequality outcomes as income, wealth or occupational prestige. Continuous inequality outcomes usually are inherently valued. More is better than less, even if their effects on overall well-being are non-linear. They can be easily mapped as distributions and modeled as individual or group-based developmental trajectories across the lifecourse. A frequent challenge in analyses of continuous inequality outcomes is how to account for time periods in which they cannot be observed, because individuals are either out of the labor force and have no earnings or occupational prestige to report. Cross-sectional analyses routinely employ Heckman selection models (Heckman, 1979) to, although imperfectly, account for selectivity into employment, in which continuous inequality outcomes of income or prestige can be observed. Heckman type selection models are difficult to extend to longer-term trajectories because they cannot capture the varying frequency, duration or content of employment interruptions due to family leave, unemployment, prison or long-term disability, among others.

Imputation is conceptually questionable because it would estimate a prestige or income value for a situation in which there is none for a specific substantive reason. Scholars have often filled these gaps with the last preceding available prestige or class score, or assigned zero earnings (Aisenbrey et al., 2009; Fasang, 2012). This is a pragmatic solution. But it does not account for the fundamental differences in terms of access to resources and social stigma attached to an employment gap resulting from either unemployment, parental leave, long-term disability or being in prison. Forward or backward filling obviously reaches the limits of responsible empirical research when it comes to long gaps, and even for short gaps risks overstating continuity in lifecourses. Facing such difficulties, some studies simply exclude individuals who have no observations on the relevant inequality outcomes for longer periods of time. Often this implies excluding the most disadvantaged by design, which will grossly distort population-level inequality estimates.

Lifecourse research has therefore additionally focused on measuring *volatility in categorical inequality outcomes* facilitated by the proliferation of sequence analysis to analyse trajectories of categorical states. Important categorical inequality outcomes include different reasons for being out of the labor force, being just above or below a poverty line, or one of the most disadvantaged lifecourse states – incarceration (Pettit and Western, 2004). Note that



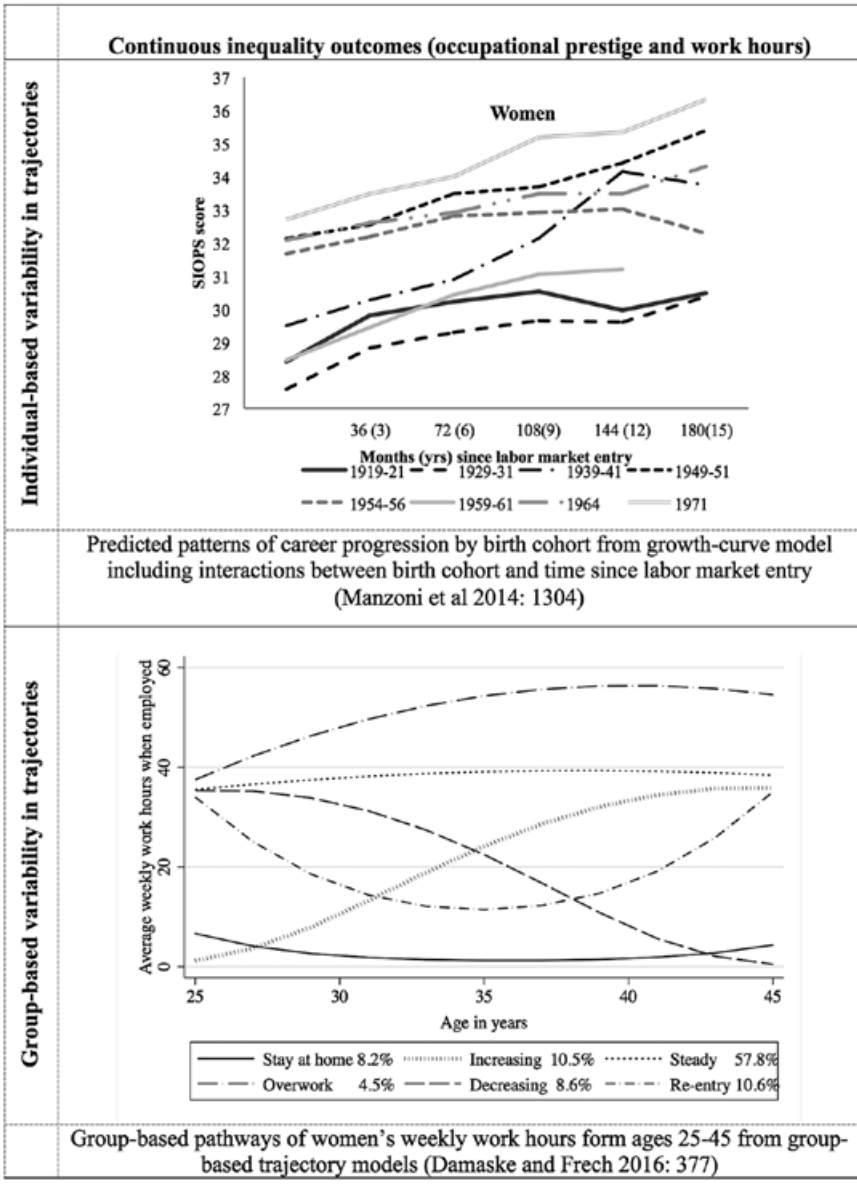


Figure 3.1 Examples of continuous lifecourse sensitive outcomes of social inequality

some categorical lifecourse states have a clear, shared positive or negative connotation (unemployment, prison), while this is not the case for others (being out of the labor force). Initially, studies counted the number of employment shifts and used event history models to study the timing and duration of specific transitions, for example, in and out of unemployment or the mother's duration until labor market re-entry after child birth (Aisenbrey et al., 2009).

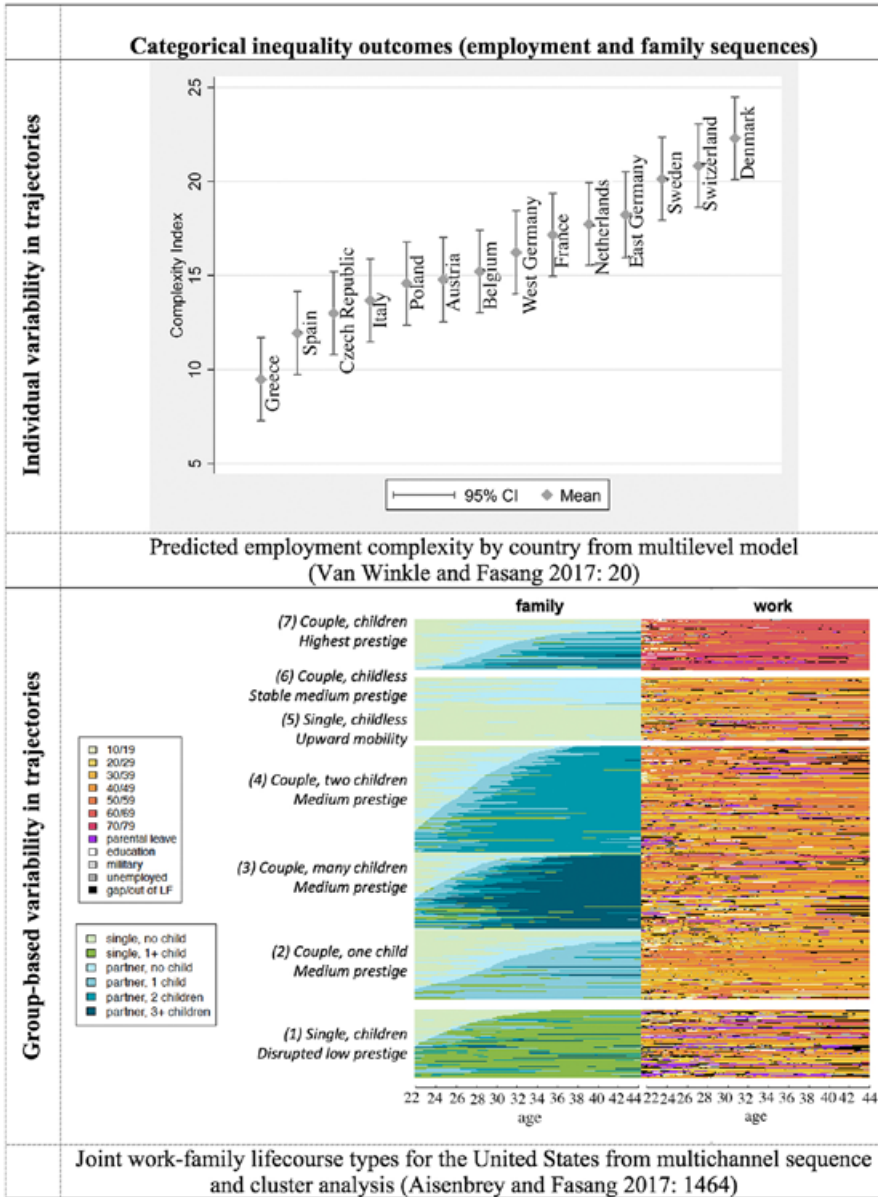


Figure 3.2 Examples of categorical lifecourse sensitive outcomes of social inequality

More recently, a burgeoning literature on lifecourse complexity (Biemann et al., 2011; Van Winkle and Fasang, 2017) focuses on within-individual heterogeneity in trajectories of categorical states. Conceptually, studies tend to either rely on lifecourse differentiation, “an increase in the number of lifecourse states experienced across the lifecourse” (Brückner and Mayer, 2005, p. 33), or employment precarity, defined as low quality employment that

is uncertain, interrupted, risky and unpredictable for the employee (Kalleberg and Vallas, 2017; Ritschard et al., 2018). Differentiation is usually measured with sequence complexity measures (Elzinga, 2010). In addition to simply counting the number of transitions, complexity indicators include the overall predictability of a trajectory and the timing and duration of transitions within trajectories of categorical states (Gabadinho et al., 2011). Note that the complexity index transforms individual based volatility in trajectories of categorical states into a continuous measure.

One challenge for these concepts and measures is that composite complexity indicators do not readily account for “desired” (upward mobility) and “undesired” (recurrent unemployment) volatility in employment careers. This can in principle be resolved by only considering specific types of employment states in the sequences, or weighting a complexity indicator by whether the job shift was voluntary or involuntary, as recently proposed by Van Winkle and Fasang (2017) in an analysis contrasting the amount of career complexity across cohorts in 22 European countries. Findings combining sequence methods in a multilevel regression framework show that, contrary to common conjectures, volatility in employment careers has not notably increased across cohorts, while cross-national differences are sizeable and stable (see Figure 3.2 top panel). Weighting complexity by the proportion of involuntary job shifts, multilevel regression shows that employment protection legislation is particularly effective in lowering complexity produced by involuntary job shifts (p. 21). Ritschard and co-authors (2018) propose a more general framework of a precarity index that weights complexity with the proportion of positive and negative transitions that have to be conceptually predefined by the researcher.

Poverty thresholds are a specific case of categorical inequality outcomes that deserve particular attention (Dewilde, 2003; Leisering and Leibfried, 1995). Whether poverty is brief and transitory, recurs in repeated episodes or enduring and long term, and for which proportion and population sub-groups have huge implications for the individuals affected and the design of effective policy measures. At the same time, assessing the dynamic nature of poverty is conceptually particularly challenging. Because poverty is often measured as a categorical outcome of being above or below a threshold, conventionally below 60 percent of median income, on the household level, transitioning into or out of poverty can be due to either a change in earnings (socio-economic event) or a change in household composition (demographic event). From dynamic poverty research we know that mobility in and out of poverty is relatively high in Organisation for Economic Co-operation and Development (OECD) countries, that the “permanent underclass” who never escapes poverty is only a small proportion of those ever experiencing poverty, and that annual poverty rates grossly understate the proportion of individuals who ever experience poverty in their lives (Burkhauser, 2001).

Vandecasteele (2011) brings together a lifecourse and classic stratification perspective to study how life events trigger poverty for individuals of different social background in several European countries. She concludes that lifecourse risks, including job loss, parenthood and separation, and classic stratification factors of education and class should be studied in interaction with each other. While parenthood triggers greater poverty risks particularly for lower class individuals, job loss equally triggers poverty across all educational levels. Van Winkle and Struffolino (2018) show that the incidence of in-work poverty varies greatly across the lifecourse in the United States. Poverty is strongly concentrated among employed men around age 18, but peaks at much later life stages at 25 percent around age 35 for employed women in the United States. In addition, they use the recently developed sequence analysis multistate

model (Studer et al., 2018) to conceptualize transitions out of in-work poverty as longer-term processes in themselves. Here the lifecourse perspective offers a more sophisticated dynamic account beyond one-time transitions out of in-work poverty. Findings show that after an initial escape from in-work poverty, most people either immediately slide back into poverty or experience a longer-term pattern of recurring poverty in and out of work with only brief escapes (Struffolino and Van Winkle, 2019).

Recent studies highlight typologies as particularly useful summaries of trajectories of categorical inequality outcomes. The stratification literature traditionally focused on final outcomes. But the processes that lead to these outcomes signify socially more or less desirable life experiences, supporting an added value of conceptualizing “destination as a process” (Karhula et al., 2019). Completing a BA on schedule after four straightforward years of study is a different experience from attaining a BA after ten years of study with multiple interruptions due to mental health problems, family care needs, financial constraints or other reasons. Karhula et al. (2019) recently used a combination of dyadic sequence analysis with matching methods to show that siblings are not only more similar in final outcomes, indicated by education and income at age 35, but also in the timing and sequencing of lifecourse trajectories leading to these outcomes that constitute valued goods in themselves.

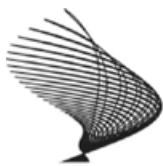
The bottom panel in Figure 3.2 shows an example of the life course typology approach that captures group-based variability in trajectories of categorical states, usually with a combination of sequence and cluster analysis. The right hand side shows family trajectories in which different family states are color coded. The left hand side shows employment trajectories that consists of categories of the Treiman occupational prestige score (from 10–19 up to 70–79) as well as different reasons for being out of the labor force. The lifecourse typology approach also allows us to map parallel work and family lifecourses and rank them as distributional measures of social inequality (Aisenbrey and Fasang, 2017) (see Figure 3.2, bottom panel). Lifecourse typologies based on (multichannel) sequence and cluster analysis (Abbott and Tsay, 2000; Gauthier et al., 2010; Studer, 2013) can combine continuous and categorical inequality outcomes to show work and family lifecourses as sequentially linked, interlocked processes over longer periods of the lifecourse. On the one hand, work–family scholars have highlighted the unidirectional impact of family events on outcomes in the employment domain (family wage and employment gaps). On the other hand, family demographers have focused on the opposite unidirectional relationship of how events in the work life, for example, the experience of economic insecurity, affect fertility or divorce (Cohen, 2014; Goldstein et al., 2013; Özcan et al., 2010). Instead, the lifecourse typology approach descriptively maps the continual mutual influences between two life domains of work and family (Aisenbrey and Fasang, 2017; Madero-Cabib and Fasang, 2016; Sirmö et al., 2017). If they can be ordered, for example, by average occupational prestige or income in the clusters, lifecourse typologies assess distributional inequality of more or less socially valued lifecourses. Social classes not only differ with regard to their relative resources, but also with regard to typical demographic trajectories. In some countries these associations are considerably stronger compared to others. Longer-term work–family lifecourse typologies thereby mark class differences in both work and family lives that create distinct lifecourse experiences, or “lifecourse classes.” Lifecourse classes at the same time mark possibilities for intergenerational reproduction through differential fertility attached to specific trajectories of status attainment (Hillmert, 2015; Lawrence and Breen, 2016; Maralani, 2013).

### 3.5 OUTLOOK

How can a lifecourse perspective enrich the study of social stratification beyond emphasizing that longitudinal conceptualizations and measurements of inequality outcomes are important? In regard to description and measurement, the systematic inclusion of lifetime not only leads to a fuller and more adequate representation of social inequalities and thus reduces measurement error, but is also adding genuinely new important aspects to it, like stability and volatility. Clearly, lifecourse studies have demonstrated how we risk misrepresenting social inequality and its generating mechanisms based on purely cross-sectional views. But beyond emphasizing the longitudinal, lifecourse research has advanced our understanding of *different types of volatility* of inequality outcomes over time, brought in the *dynamic analysis of categorical inequality outcomes*, and informed *the distribution of multidimensional lifecourse types*, most prominently in the work and family domain. The latter signify class-specific, combined demographic and inequality trajectories that characterize individuals' life experiences more comprehensively than simple class membership. These extensions have been particularly important for advancing the study of gender inequality. Albeit associations vary across countries and historical time, women's status and class trajectories tend to include more time out of the labor force, when no continuous inequality outcomes such as income or occupational prestige can be observed, more volatility, and are more tightly intertwined with their demographic trajectories. In fact, interdisciplinary lifecourse research can be seen as the main driver of demographically sensitive analyses of social inequality.

In concluding, let us take up our claim that lifecourse studies of social stratification are particularly valuable in times of demographic change. Smaller birth cohorts should enjoy better educational and occupational opportunities. Prolonged working lives improve retirement savings and ease the increasing pension burden. Dual incomes and careers, on the one hand, and family instability coupled with more precarious employment, on the other hand, dramatically increase the extent of socio-economic inequalities for adults, elderly and children alike. Migration restructures our stratification systems by adding exclusion and discrimination to disadvantage. In sum, the joining of demography, the lifecourse as both a theory and a tool, and stratification signifies one of the most fertile and promising areas in the social sciences.

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NETWORK

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## NOTES

1. "Jede Klasse gleicht während der Dauer ihres Kollektivlebens ... einem Hotel oder Omnibus, die zwar immer besetzt sind, aber immer von anderen Leuten ..." (Schumpeter, 1927, p. 170).
2. "Soziale Klasse soll die Gesamtheit der Klassenlagen heißen, zwischen denen ein Wechsel a) persönlich, b) in der Generationenfolge leicht möglich und typisch ist" (Weber, 1956, p. 22).

## REFERENCES

- Abbott, A. (2016). *Processual Sociology*. Chicago, IL: University of Chicago Press.
- Abbott, A. and Tsay, A. (2000). Sequence Analysis and Optimal Matching Methods in Sociology: Review and Prospect. *Sociological Methods & Research*, **29**. <https://doi.org/10.1177/0049124100029001001>
- Aisenbrey, S. and Fasang, A. (2017). The Interplay of Work and Family Trajectories Over the Life Course: Germany and the United States in Comparison. *American Journal of Sociology*, **122**(5), 1448–84. <https://doi.org/10.1086/691128>
- Aisenbrey, S., Evertsson, M., and Grunow, D. (2009). Is There a Career Penalty for Mothers' Time Out? A Comparison of Germany, Sweden and the United States. *Social Forces*, **88**(December), 573–606.
- Andress, H.-J., Borgloh, B., Brockel, M., Giesselmann, M., and Hummelsheim, D. (2006). The Economic Consequences of Partnership Dissolution – a Comparative Analysis of Panel Studies from Belgium, Germany, Great Britain, Italy, and Sweden. *European Sociological Review*, **22**(5), 533–60. <https://doi.org/10.1093/esr/jcl012>
- Bendix, R. and Lipset, S.M. (1966). *Class, Status and Power. Social Stratification in a Comparative Perspective*. New York: The Free Press.
- Bernardi, L., Huinink, J., and Settersten, R.A.J. (2019). The Life Course Cube: A Tool for Studying Lives. *Advances in Life Course Research*, **41**, September. <https://doi.org/10.1016/j.alcr.2018.11.004>
- Biemann, T., Fasang, A.E., and Grunow, D. (2011). Do Economic Globalization and Industry Growth Destabilize Careers? An Analysis of Career Complexity and Career Patterns Over Time. *Organization Studies*, **32**(12), 1639–63. <https://doi.org/10.1177/0170840611421246>
- Billari, F.C. (2015). Integrating Macro- and Micro-Level Approaches in the Explanation of Population Change. *Population Studies*, **69**, S11–S20. <https://doi.org/10.1080/00324728.2015.1009712>
- Billari, F.C. and Liefbroer, A.C. (2010). Towards a New Pattern of Transition to Adulthood? *Advances in Life Course Research*, **15**(2–3), 59–75. <https://doi.org/10.1016/j.alcr.2010.10.003>
- Blau, P.M. and Duncan, O.D. (1967). *The American Occupational Structure*. New York: Wiley & Sons.
- Bönke, T., Corneo, G., and Lüthen, H. (2015). Lifetime Earnings Inequality in Germany. *Journal of Labor Economics*, **33**(1), 171–208. <https://doi.org/10.2139/ssrn.1945700>
- Brückner, H. and Mayer, K.U. (2005). De-Standardization of the Life Course: What It Might Mean? And If It Means Anything, Whether It Actually Took Place? *Advances in Life Course Research*, **9**(4), 27–53. [https://doi.org/10.1016/S1040-2608\(04\)09002-1](https://doi.org/10.1016/S1040-2608(04)09002-1)
- Brüderl, J., Kratz, F., and Bauer, G. (2018). Life Course Research with Panel Data: An Analysis of the Reproduction of Social Inequality. *Advances in Life Course Research*, January. <https://doi.org/10.1016/j.alcr.2018.09.003>
- Buchmann, M.C. and Kriesi, I. (2011). Transition to Adulthood in Europe. *Annual Review of Sociology*, **37**(1), 481–503. <https://doi.org/10.1146/annurev-soc-081309-150212>
- Burkhauser, R.V. (2001). What Policymakers Need to Know about Poverty Dynamics. *Journal of Policy Analysis and Management*, **20**(4), 757–59.

- Carroll, G.R. and Mayer, K.U. (1986). Job-Shift Patterns in the Federal Republic of Germany: The Effects of Social Class, Industrial Sector, and Organizational Size. *American Sociological Review*, **51**(3), 323–41.
- Casamatta, G. and Batté, L. (2016). The Political Economy of Population Aging. In J. Piggott and A. Woodland (eds), *Handbook of the Economics of Population Aging* (pp. 381–444). North Holland: Elsevier.
- Cheng, S. (2014). A Life Course Trajectory Framework for Understanding the Intracohort Pattern of Wage Inequality. *American Journal of Sociology*, **120**(3), 633–700. <https://doi.org/10.1086/679103>
- Cohen, P.N. (2014). Recession and Divorce in the United States, 2008–2011. *Population Research and Policy Review*, **33**(5), 615–28. <https://doi.org/10.1109/EMBC.2016.7590696>
- Damaske, S. and Frech, A. (2016). Women’s Work Pathways across the Life Course. *Demography*, **53**(2), 365–91. <https://doi.org/10.1007/s13524-016-0464-z>
- Dannefer, D. (2003). Cumulative Advantage/Disadvantage and the Life Course: Cross-Fertilizing Age and Social Science Theory. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences*, **58**(6), S327–S337. <http://www.ncbi.nlm.nih.gov/pubmed/14614120> (accessed February 2020).
- Dewilde, C. (2003). A Life-Course Perspective on Social Exclusion and Poverty. *British Journal of Sociology*, **54**(1), 109–28. <https://doi.org/10.1080/0007131032000045923>
- Diewald, M. (2016). Life Course Risks and Welfare States’ Risk Management. In J.T. Mortimer and M.J. Shanahan (eds), *Handbook of the Life Course* (pp. 677–87). Cham: Springer.
- DiPrete, T.A. and Eirich, G.M. (2006). Cumulative Advantage as a Mechanism for Inequality: A Review of Theoretical and Empirical Developments. *Annual Review of Sociology*, **32**(1), 271–97. <https://doi.org/10.1146/annurev.soc.32.061604.123127>
- Ehmer, J. (1990). *Sozialgeschichte des Alters*. Frankfurt: Suhrkamp.
- Elder, G.H., Johnson, M.K., and Crosnoe, R. (2003). The Emergence and Development of Life Course Theory. In J.T. Mortimer and M.J. Shanahan (eds), *Handbook of the Life Course* (pp. 3–19). Boston, MA: Springer. [https://doi.org/10.1007/978-0-306-48247-2\\_1](https://doi.org/10.1007/978-0-306-48247-2_1)
- Elzinga, C.H. (2010). Complexity of Categorical Time Series. *Sociological Methods & Research*, **38**(3), 463–81. <https://doi.org/10.1177/0049124109357535>
- Erikson, R. and Goldthorpe, J.H. (2002). Intergenerational Inequality: A Sociological Perspective. *Journal of Economic Perspectives*, **16**(3), 31–44. <https://doi.org/10.1257/089533002760278695>
- Fasang, A.E. (2012). Retirement Patterns and Income Inequality. *Social Forces*, **90**(3), 685–711. <https://doi.org/10.1093/sf/sor015>
- Fasang, A.E. (2018). Demography and Social Inequality. *Emerging Trends in the Social and Behavioral Sciences*, **1798**, 1–17. <https://doi.org/10.1002/9781118900772.etrds0452>
- Fasang, A.E. and Raab, M. (2014). Beyond Transmission: Intergenerational Patterns of Family Formation among Middle-Class American Families. *Demography*, **51**(5), 1703–28. <https://doi.org/10.1007/s13524-014-0322-9>
- Fasang, A.E., Huinink, J., and Pollmann-Schult, M. (2016). Aktuelle Entwicklungen in der deutschen Familiensoziologie: Theoriesn, Daten, Methoden. [Current Developments in German Family Sociology: Theories, Data, Methods]. *Zeitschrift für Familienforschung / Journal of Family Research*, **28**(1), 112–43.
- Featherman, D.L. and Hauser, R.M. (1976). Sexual Inequalities and Socioeconomic Achievement in the U.S., 1962–1973. *American Sociological Review*, **41**(3), 462–83.
- Featherman, D.L., Selbee, K.L., and Mayer, K.U. (1989). Social Class and the Structuring of the Life Course in Norway and West Germany. In D.I. Kertzner and W.K. Schaie (eds), *Age Structuring in Comparative Perspective* (pp. 55–93). Hillsdale, NJ: Erlbaum.
- Florian, S.M. (2018). Motherhood and Employment among Whites, Hispanics, and Blacks: A Life Course Approach. *Journal of Marriage and Family*, **80**(1), 134–49. <https://doi.org/10.1111/jomf.12448>
- Frech, A. and Damaske, S. (2019). Men’s Income Trajectories and Physical and Mental Health at Midlife. *American Journal of Sociology*, **124**(5), 1372–412.
- Furstenberg, F.F. (2010). On a New Schedule: Transitions to Adulthood and Family Change. *The Future of Children*, **20**(1), 67–87.

- Gabardin, A., Ritschard, G., and Studer, M. (2011). Analyzing and Visualizing State Sequences in R with TraMineR. *Journal of Statistical Software*, **40**(4), 1–37.
- Gangl, M., & Ziefle, A. (2009). Motherhood, labor force behavior, and women's careers: An empirical assessment of the wage penalty for motherhood in Britain, Germany, and the United States. *Demography*, **46**(2), 341–69.
- Gauthier, J.-A., Widmer, E.D., Bucher, P., and Notredame, C. (2010). Multichannel Sequence Analysis Applied to Social Science Data. *Sociological Methodology*, **40**(1), 1–38.
- Glass, D.V. (1954). *Social Mobility in Britain*. London: Routledge and Paul.
- Goldstein, J., Kreyenfeld, M., Jasilioniene, A., and Karaman Örsal, D. (2013). Fertility Reactions to the “Great Recession” in Europe. *Demographic Research*, **29**(July), 85–104. <https://doi.org/10.4054/DemRes.2013.29.4>
- Härkönen, J., Manzoni, A., and Bihagen, E. (2016). Gender Inequalities in Occupational Prestige across the Working Life: An Analysis of the Careers of West Germans and Swedes Born from the 1920s to the 1970s. *Advances in Life Course Research*, **29**, 41–51. <https://doi.org/10.1016/j.alcr.2016.01.001>
- Heckman, J.J. (1979). Sample Selection Bias as a Specification Error. *Econometrica*, **47**(1), 153–61.
- Hillmert, S. (2015). Changing Structures of Opportunity: A Life-Course Perspective on Social Mobility and Reproduction. *European Sociological Review*, **31**(2), 184–96. <https://doi.org/10.1093/esr/jcv012>
- Kahn, J., García-Manglano, J., and Bianchi, S. (2014). The Motherhood Penalty at Midlife: Long-Term Effects of Children on Women's Careers. *Journal of Marriage and Family*, **76**(1), 56–72. <https://doi.org/10.1016/j.immuni.2010.12.017>
- Kalleberg, A.L. and Vallas, S.P. (2017). *Precarious Work*. Bingley, UK: Emerald Publishing.
- Karhula, A., Erola, J., Raab, M., and Fasang, A. (2019). Destination as a Process: Sibling Similarity in Early Socioeconomic Trajectories. *Advances in Life Course Research*, **40**(August), 85–98. <https://doi.org/10.1016/j.alcr.2019.04.015>
- Killewald, A., Pfeffer, F.T., and Schachner, J.N. (2017). Wealth Inequality and Accumulation. *Annual Review of Sociology*, **43**, 379–404. <https://doi.org/10.1146/annurev-soc-060116-053331>
- Langner, L.A. (2015). Within-Couple Specialisation in Paid Work: A Long-Term Pattern? A Dual Trajectory Approach to Linking Lives. *Advances in Life Course Research*, **24**, 47–65. <https://doi.org/10.1016/j.alcr.2015.02.002>
- Lawrence, M. and Breen, R. (2016). And Their Children after Them? The Effect of College on Educational Reproduction. *American Journal of Sociology*, **122**(2), 532–72. <https://doi.org/10.1086/687592>
- Leisering, L. (2003). Government and the Life Course. In J.T. Mortimer and M.J. Shanahan (eds), *Handbook of the Life Course* (pp. 205–25). Boston, MA: Springer.
- Leisering, L. and Leibfried, S. (1995). *Time and Poverty in Western Welfare States*. Cambridge: Cambridge University Press.
- Madero-Cabib, I. and Fasang, A.E. (2016). Gendered Work–Family Life Courses and Financial Well-being in Retirement. *Advances in Life Course Research*, **27**, 43–60. <https://doi.org/10.1016/j.alcr.2015.11.003>
- Manzoni, A., Härkönen, J., and Mayer, K.U. (2014). Moving On? A Growth-Curve Analysis of Occupational Attainment and Career Progression Patterns in West Germany. *Social Forces*, **92**(4), 1285–312. <https://doi.org/10.1093/sf/sou002>
- Maralani, V. (2013). The Demography of Social Mobility: Black-White Differences in the Process of Educational Reproduction. *American Journal of Sociology*, **118**(6), 1509–58. <https://doi.org/10.1086/670719>
- Mare, R.D. (2011). A Multigenerational View of Inequality. *Demography*, **48**(1), 1–23. <https://doi.org/10.1007/s13524-011-0014-7>
- Mayer, K.U. (2005). Life Courses and Life Chances in a Comparative Perspective. In S. Svallfors (ed.), *Analyzing Inequality: Life Chances and Social Mobility in Comparative Perspective* (pp. 17–55). Stanford: Stanford University Press
- Mayer, K.U. (2015). The German Life History Study – an Introduction. *European Sociological Review*, **31**(2), 137–43. <https://doi.org/10.1093/esr/jcv011>
- Mayer, K.U. (2019). Heuristics, Theoretical Foundations, Accounting Schemes and Theories – on Advances in the General Theory of the Life Course. *Advances in Life Course Research*, **41**, September, <https://doi.org/10.1016/j.alcr.2019.04.007>



- Mayer, K.U. and Carroll, G.R. (1987). Jobs and Classes: Structural Constraints on Career Mobility. *European Sociological Review*, **3**, 14–38.
- Mayer, K.U. and Müller, W. (1986). The State and the Structure of the Life Course. In *Human Development and the Life Course: Multidisciplinary Perspectives* (pp. 217–45). Hillsdale, NJ: Erlbaum.
- Mayer, K.U. and Tuma, N.B. (1990). *Event History Analysis in Life Course Research*. Madison, WI: University of Wisconsin Press.
- Mayer, K.U., Grunow, D., and Nitsche, N. (2010). Mythos Flexibilisierung? Is Occupational Flexibilization a Myth? How Stable Have Working Lives Been and How Stable Are They Being Perceived? *Kölner Zeitschrift für Soziologie und Sozialpsychologie*, **62**. <https://doi.org/10.1007/s11577-010-0106-1>
- Müller, W., and K.U. Mayer eds (1973). *Social Stratification and Career Mobility*. Paris: Mouton.
- Nagin, D.S. (1999). Analyzing Developmental Trajectories: A Semiparametric, Group-Based Approach. *Psychological Methods*, **4**(2), 139–57.
- Nitsche, N. and Grunow, D. (2016). Housework over the Course of Relationships: Gender Ideology, Resources, and the Division of Housework from a Growth Curve Perspective. *Advances in Life Course Research*, **29**, 80–94. <https://doi.org/10.1016/j.alcr.2016.02.001>
- Nitsche, N. and Mayer, K.U. (2013). Subjective Perceptions of Employment Mobility: A Comparison of East and West Germany. *Comparative Sociology*, **12**(2), 184–210. <https://doi.org/10.1163/15691330-12341260>
- Özcan, B., Mayer, K.U., and Luedicke, J. (2010). The Impact of Unemployment on the Transition to Parenthood. *Demographic Research*, **23**, 807–46. <https://doi.org/10.4054/DemRes.2010.23.29>
- Pettit, B. and Western, B. (2004). Mass Imprisonment and the Life Course: Race and Class Inequality in U.S. Incarceration. *American Sociological Review*, **9**, 151–69.
- Piccarreta, R. and Studer, M. (2018). Holistic Analysis of the Life Course: Methodological Challenges and New Perspectives. *Advances in Life Course Research*, October. <https://doi.org/10.1016/j.alcr.2018.10.004>
- Pötter, U. and Blossfeld, H.P. (2001). Causal Inference from Series of Events. *European Sociological Review*, **17**(1), 21–32. <https://doi.org/10.1093/esr/17.1.21>
- Riley, M., Johnson, M., and Foner, A. (1972). *Aging and Society: A Sociology of Age Stratification*. New York: Russel Sage Foundation.
- Ritschard, G., Bussi, M., and O'Reilly, J. (2018). An Index of Precarity for Measuring Early Employment Insecurity. In G. Ritschard and M Studer (eds), *Sequence Analysis and Related Approaches: Innovative Methods and Applications* (pp. 279–95). Geneva: Springer. [https://doi.org/10.1007/978-3-319-95420-2\\_16](https://doi.org/10.1007/978-3-319-95420-2_16)
- Sakamoto, A. and Powers, D.A. (2006). Demography of Social Stratification. In Dudely Poston and Michael Micklin (eds), *Handbook of Population, 1975* (pp. 383–416). Boston, MA: Springer. [https://doi.org/10.1007/0-387-23106-4\\_14](https://doi.org/10.1007/0-387-23106-4_14)
- Schelsky, H. (1965). Die Bedeutung des Schichtungsbegriffes für die Analyse der gegenwärtigen deutschen Gesellschaft. In H. Schelsky (ed.), *Auf der Suche nach Wirklichkeit* (pp. 33–4), Düsseldorf-Köln: Dietrichs.
- Schumpeter, J. (1927). Die sozialen Klassen im ethnisch homogenen Milieu. In *Aufsätze zur Soziologie* (pp. 147–213). Tübingen: Mohr/Siebeck.
- Sewell, W.H. and Hauser, R.M. (1972). Causes and Consequences of Higher Education: Models of the Status Attainment Process. *American Journal of Agricultural Economics*, **54**(5), 851–61.
- Sewell, W.H., Haller, A.O., and Portes, A. (1969). The Educational and Early Occupational Attainment Process. *American Sociological Review*, **34**(1), 82–92. <http://www.jstor.org/stable/2092789> (accessed 16 August 2016).
- Sirniö, O., Kauppinen, T.M., and Martikainen, P. (2017). Intergenerational Determinants of Joint Labor Market and Family Formation Pathways in Early Adulthood. *Advances in Life Course Research*, **34**(December 2016), 10–21. <https://doi.org/10.1016/j.alcr.2017.09.001>
- Stawartz, N. (2018). Patterns of Intergenerational Mobility. An Analysis of Heterogeneity of Occupational Careers. *Advances in Life Course Research*, **38**, 1–11.
- Struffolino, E. and Van Winkle, Z. (2019). Is There Only One Way Out of In-Work Poverty? Difference by Gender and Race in the US. Discussion Paper, SP I 2019, January.

- Studer, M. (2013). WeightedCluster Library Manual: A Practical Guide to Creating Typologies of Trajectories in the Social Sciences with R. LIVES Working Papers, 24.
- Studer, M., Struffolino, E., and Fasang, A.E. (2018). Estimating the Relationship between Time-Varying Covariates and Trajectories: The Sequence Analysis Multistate Model Procedure. *Sociological Methodology*, **48**(1), 103–35. <https://doi.org/10.1177/0081175017747122>
- van Raalte, A.A., Mackenbach, J.P., Kunst, A.E. et al., Centrum för forskning om ojämlikhet i hälsa (2012). The Contribution of Educational Inequalities to Lifespan Variation. *Population Health Metrics*, **10**(1), 3. <https://doi.org/10.1186/1478-7954-10-3>
- Van Winkle, Z. and Fasang, A. (2017). Complexity in Employment Life Courses in Europe in the Twentieth Century-Large Cross-National Differences but Little Change across Birth Cohorts. *Social Forces*, **96**(1), 1–30. <https://doi.org/10.1093/sf/sox032>
- Van Winkle, Z. and Struffolino, E. (2018). When Working Isn't Enough: Family Demographic Processes and In-Work Poverty across the Life Course in the United States. *Demographic Research*, **39**(September), 365–80. <https://doi.org/10.4054/DemRes.2018.39.12>
- Vandecasteele, L. (2011). Life Course Risks or Cumulative Disadvantage? The Structuring Effect of Social Stratification Determinants and Life Course Events on Poverty Transitions in Europe. *European Sociological Review*, **27**(2), 246–63. <https://doi.org/10.1093/esr/jcq005>
- Visser, M. and Fasang, A.E. (2018). Educational Assortative Mating and Couples' Linked Late-Life Employment Trajectories. *Advances in Life Course Research*, **37**(April), 79–90. <https://doi.org/10.1016/j.alcr.2018.04.005>
- Weber, M. (1956). *Wirtschaft und Gesellschaft*. Tübingen: J.C.B. Mohr.

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## 4. Studying individuals across the lifecourse: a review of longitudinal methods

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### 4.1 INTRODUCTION

Individual lifecourses have become more complex over the last decades across industrialised countries. Lifecourse transitions, such as completing formal education, starting employment, forming a co-residential partnership, marrying, or becoming a parent have been postponed or completely forgone. Additionally, the traditional sequence of family life events (that is, first completing education, starting employment, then marriage, followed by co-residence and having children) became less prevalent as new steps emerged in individual lifecourses, such as living alone, non-marital cohabitation, non-marital childbearing, union dissolution, and divorce. Consequently, the variation of lifecourse patterns has increased, the timing and sequencing of life events has changed, and individual lifecourses have become more diverse and less predictable than in the past (Billari and Liefbroer, 2010; Elzinga and Liefbroer, 2007; Liefbroer, 1999; Liefbroer and Toulemon, 2010; Shanahan, 2000).

The numerous reasons behind these processes include the expansion of higher education, increased female labour force participation, the introduction of the contraceptive pill, and the increase in gender equality. Taken together, these processes have led to changes in societal norms and values (Lesthaeghe and van de Kaa, 1986; van de Kaa, 2002), the ‘de-standardisation’ of individual lifecourses (Brückner and Mayer, 2005), and an increase in the role of agency in individuals’ lives (Beck and Beck-Gernsheim, 1996). Others argue that changing lifecourses are a result of opportunities and constraints (Giddens, 1984; Mills, 2004) or economic circumstances (Perelli-Harris and Gerber, 2011).

The concept of the ‘lifecourse’ refers to sequences of events (or transitions) experienced by individuals over time (Elder, 1975, 1985). Transitions are discrete life changes, which are embedded in trajectories while trajectories are sequences of linked states in a life domain (such as family life or education) (Elder, 1985). Individual lifecourses are also embedded in social institutions, historical time, and cohort context. Therefore, the concept of time, be it historical, individual (that is, age), or generational (that is, cohort), is central to studying the lifecourse.

The increasing complexity of individual lifecourses has implications for the way in which we study individuals’ outcomes and the determinants of these outcomes. With the increased availability of longitudinal and panel studies since the 1980s, longitudinal and lifecourse studies have proliferated in demography (Mayer, 2000, 2009). Several methods have been proposed for studying and modelling new and emerging complexities in individual lifecourses. These approaches can be categorised as either event-based or holistic (Billari, 2005). Event-based approaches focus on the ‘risk’ of particular events or transitions (for example, transition to employment or transition to motherhood) and their causes or correlates. These methods include event history analysis and its extensions (competing risks models, multi-state event history models, and multi-process models) and panel regression (random- and fixed-effects

models). Holistic approaches aim to describe the lifecourse by looking for ‘ideal-types’ of trajectories and focus on categorising and describing different lifecourse patterns. These methods include sequence analysis (and its extension, multi-channel sequence analysis), latent class growth models, and latent transition analysis.

This chapter provides an up-to-date overview of the available event-based and holistic longitudinal methods that are commonly used to study different aspects of individual lifecourses in demographic research. We briefly describe each method and provide examples of empirical applications from previous research, primarily from the field of family demography. We also discuss the availability of software and software packages to conduct these analyses. The concluding section discusses the strengths and weaknesses of each method and the type of research questions they are best suited to answer.

## 4.2 EVENT-BASED APPROACHES

Event-based approaches focus on the timing and/or occurrence of certain events or transitions (for example, transition to employment, transition to motherhood, transition to homeownership). One of the key aims of event-based approaches is to establish how covariates of interest influence individuals’ ‘risk’ or probability of experiencing certain events or transitions. This section describes the two most commonly used event-based methods: event history analysis (and its extensions, such as competing risks models, multi-state event history models, and multi-process models) and panel regression (random- and fixed-effects models).

### 4.2.1 Event History Analysis

Event history analysis is a regression technique where the aim is to study events and their causes (Allison, 2014). In demography, examples of such events include births, deaths, cohabitation, marriage, divorce, moving, or migration (Allison, 2014). To study such events, we need two types of information on individuals’ experiences: whether the event happened and if so, when. Such information is increasingly collected in longitudinal surveys, which follow the same individuals over time. These surveys typically ask individuals about the occurrence and the date of different life events, such as having children, cohabitation, marriage, divorce, moving, or migration. If individuals experienced several events, the date of all events are recorded. This enables researchers to reconstruct individuals’ event histories. Information can be collected retrospectively (that is, respondents are asked to recall the dates of past life events) or prospectively (for example, in panel surveys, information is collected on events experienced by individuals since the last interview).

To study the causes or correlates of the occurrence and timing of the event of interest, we also need information on individuals’ background characteristics. Some of these characteristics may be constant (for example, sex, race, parental education at age 15), while others might change over time (for example, individuals’ education, employment status, housing situation, or income). Event histories are ideal to study the causes of events but they have two features that create problems for standard regression techniques: censoring and time-varying variables (Allison, 2014). Censoring occurs when individuals have not experienced the event of interest before the end of the observation period. One of the most important features of event history analysis is that it can deal with such censored observations. Time-varying variables are those,

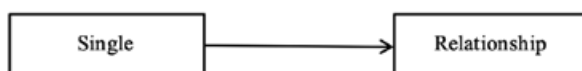


Figure 4.1 *Example of an event history model*

which may change over time. Conventional regression techniques are not able to incorporate such time-varying information. Figure 4.1 shows an example of an event history model. In this example, all individuals are single when we first observe them (for example at age 16) and some of them form a relationship during the observation period.

There are different approaches to the analysis of event history data (Allison, 2014). Traditionally, demographers have used life tables to analyse such data (for a detailed description of the life table method, see Preston et al., 2001). Life tables focus on studying the distribution of the time until an event occurs or the time between events. More recently, the focus has shifted to regression models where the occurrence of an event is modelled as a function of a set of explanatory variables (Allison, 2014). Depending on how precisely time is measured, event history analysis can be ‘continuous-time’ (for example, if time is measured daily or weekly) or ‘discrete-time’ (for example, monthly or yearly observations). Additionally, event history methods may be non-parametric or parametric depending on the assumptions that are made about the distribution of event times. When no assumptions are made about the distribution of event times, non-parametric event history analysis is applied. In most social science applications, it is usually assumed that the distribution of time until the event of interest occurs follows a specific functional form such as the exponential, Weibull, or Gompertz distribution. The most well-known Cox proportional hazards model (Cox, 1972) bridges the non-parametric and parametric approaches. It is a semi-parametric model because although it specifies a regression model with a given functional form, it does not specify a functional form for the distribution of event times (Allison, 2014). Most software packages commonly used for statistical analysis, such as Stata, SAS, SPSS, or R, have in-built tools for estimating event history models.

Event history analysis has been widely used for studying individual lifecourses in demographic research. For example, studies have examined the transition to first birth (e.g., Begall and Mills, 2013; Kreyenfeld, 2004; Lappegård and Rønsen, 2005), leaving the parental home (e.g., Billari and Liefbroer, 2007), union formation (e.g., Jalovaara, 2012; Katus et al., 2007), separation from marriage (e.g., Berrington and Diamond, 1999; Diekmann and Engelhardt, 1999; Kulu, 2014), the outcomes of cohabiting relationships (e.g., Berrington, 2001), repartnering (Gałęzewska et al., 2017; Ivanova et al., 2013), residential mobility (e.g., Mikolai and Kulu, 2018a, 2018b), and migration (e.g., Kulu, 2004).

#### 4.2.2 Extensions of Event History Analysis

Event history analysis is the most suitable for studying events which can only occur once (for example, first marriage, first birth, death) and when we are only interested in one type of outcome. However, events may occur several times (for example, one can marry or divorce several times) or individuals may experience different types of events (for example, dying from different causes or forming different types of relationships). Additionally, unobserved characteristics (for example, personality traits or values) may play an important role in the

demographic process under study. If this is the case, the estimates of the effects of key independent variables on the occurrence and timing of the event of interest may be biased. In many applications, unobserved characteristics also play an important role in the interrelationship between several lifecourse transitions. Event history analysis can be extended to model these complexities in individual lifecourses. In this section, we briefly describe extensions of event history analysis (competing risks models, multi-state models, multi-process models, and multi-level models), which are suitable for the analysis of complex individual lifecourses.

#### 4.2.2.1 Competing risks models

Event history models can be extended to study the timing, occurrence, and correlates of different types of events using so-called competing risks models. Figure 4.2 depicts an example of a competing risks model. As in Figure 4.1, all individuals are single at the start of the observation (age 16) and they can form one of two co-residential relationship types: cohabitation or marriage. In other words, they can experience two competing transitions. At the start of the observation, individuals are at risk of both types of transitions. However, when they experience cohabitation (or marriage), they are not at risk of experiencing marriage (or cohabitation) anymore as a first type of partnership. In other words, when one type of event occurs, individuals are censored for the competing event. Those who do not start a co-residential relationship during the observation period remain in the initial 'single' state.

Numerous demographic studies have used competing risks analysis. For example, family demographers have analysed the competing transitions to first cohabitation or marriage among single individuals (e.g., Berrington and Diamond, 2000; Bukodi, 2012; Jalovaara, 2012), the outcome of cohabiting relationships (e.g., Berrington, 2001), or the transition to first birth within different partnership types (e.g., Mikolai, 2012; Perelli-Harris and Gerber, 2011; Perelli-Harris et al., 2010).

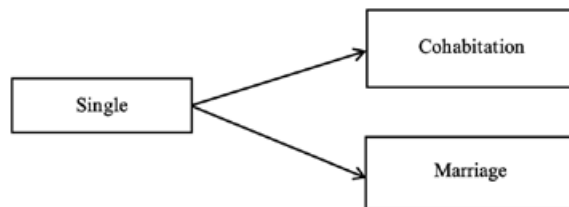


Figure 4.2 Example of a competing risks model

#### 4.2.2.2 Multi-state models

In reality, the end point of one transition often provides the starting point for another transition. For example, cohabiting individuals may marry their cohabiting partner or may separate from them. Similarly, married individuals may experience divorce (Figure 4.3). When the focus is on modelling several sets of competing transitions, multi-state models can be used. Multi-state event history models are an extension of competing risks models that enable researchers to study several lifecourse transitions and the influence of key covariates on each of the examined transitions as individuals move across several pre-defined states over time.

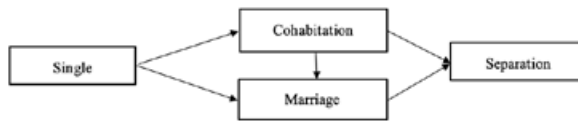


Figure 4.3 *Example of a multi-state model*

Multi-state event history analysis is relatively recent in family demography. It has been applied to the study of family life transitions (Bonetti et al., 2013; Mikolai et al., 2018; Steele et al., 2004) and residential mobility (Mikolai and Kulu, 2018a, 2018b; Pelikh and Kulu, 2018). Many more applications are available in biomedical studies (Andersen and Perme, 2008; Klein and Shu, 2002). These models can either be estimated as a series of competing risks models using standard statistical software or using the *mstate* package in R (de Wreede et al., 2011).

#### 4.2.2.3 Multi-process models

The ultimate aim of statistical modelling is to identify causal relationships between key independent variables and the event of interest. However, often we are not able to include all individual characteristics in our models, either because they are not observed (for example, personality traits) or because they are difficult to measure (for example, values). This means that our estimates of the effect of key independent variables may be biased. This is especially the case when it is likely that an explanatory variable is jointly determined with the outcome of interest. In this case, one should apply multi-process models (also called simultaneous equations models or joint modelling). These models aim to simultaneously examine several potentially correlated processes, thereby allowing us to assess whether and how different processes in the lifecourse are related to each other. For example, the decision to marry might be related to the decision to have children (e.g., Brien et al., 1999) or buying a house or moving to a larger dwelling may occur in anticipation of childbearing (e.g., Kulu, 2008; Kulu and Steele, 2013; Kulu and Vikat, 2007).

Studies have applied multi-process models to simultaneously model childbearing and union dissolution (e.g., Lillard and Waite, 1993; Steele et al., 2005), partnership transitions and non-marital childbearing (e.g., Baizán et al., 2004; Brien et al., 1999), educational choice and family formation (e.g., Billari and Philipov, 2004; Upchurch et al., 2002), work and family transitions (Aassve et al., 2006), and migration and marriage (Jang et al., 2014). Others have studied the link between pre-marital cohabitation and union dissolution (Kulu and Boyle, 2010), and the interrelationship between union dissolution and changes in housing type (Mikolai and Kulu, 2018a) and housing tenure (Lersch and Vidal, 2014; Mikolai and Kulu, 2018b) using multi-process models.

#### 4.2.2.4 Repeated events

All of the above-mentioned event history techniques can be extended to situations when individuals can experience the event of interest several times (be it a single event, competing events, or multiple events across the lifecourse). To study such repeated events, multilevel models can be used to account for the fact that events are nested within individuals and that individuals' observations are not independent from each other. Section 4.2.3 provides more information on multilevel models in the context of panel regression.

### 4.2.3 Panel Regression

Another approach to studying events and their causes or correlates is panel regression. In longitudinal studies, panel regression is used on panel datasets; that is, longitudinal datasets that include repeated observations for the same individuals over time. If the number of observations is the same for all individuals, we talk about balanced data; otherwise, we have unbalanced data. Panel datasets have a hierarchical structure, which, for longitudinal data analysis, means that repeated observations (lower-level units) are nested within individuals (higher-level units) (Clarke et al., 2015).

The aim of panel regression is to model the structure of the data as well as the predictors of change in the outcome variable over time (Luke, 2004). Figure 4.4 shows an example where individual A and individual B have been observed for five consecutive time points (usually years in panel datasets). In this example, repeated observations are nested within individuals. For example, we could analyse the change from being single to being in a relationship by using repeated information on individuals' marital status over the five years. Figure 4.4 also highlights that in panel datasets, there are two sources of variation in the data: variation within individuals (that is, a change in the outcome variable over time within the same individual) and variation between individuals (that is, differences between the outcomes of individual A and individual B).

A key choice to be made during panel analysis is whether to treat terms related to the higher-level units as random or fixed (Clarke et al., 2015). Accordingly, there are two approaches to panel data analysis: random-effects models (also called multilevel models) and fixed-effects models. Random-effects models use information from the variation between and within individuals to calculate overall effect sizes and standard errors. Nevertheless, there are a few issues commonly associated with using random-effects models for analysing longitudinal data. Most important is the issue of causal inference. To estimate the effect of a variable of interest on the outcome variable correctly, we need to ensure that this relationship is not due to a third, unobserved variable, which influences both the independent and dependent variables. However, it is likely that individuals' propensity to experience a change in the outcome variable is determined by other pre-existing variables, which vary between individuals, and also affect their outcomes. To eliminate this variation, fixed-effects models can be used because these models only use information from the within-individual variation to estimate the causal effect of key independent variables on the outcome of interest. This is advantageous over simply controlling for observed confounding variables because the fixed-effect removes

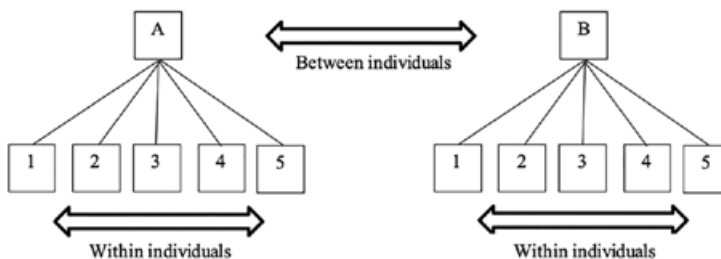


Figure 4.4 Example of panel regression



potentially confounding unobserved factors as well. Yet, this also comes at a cost, namely that the effect of time-constant variables (that is, variables whose value remains the same over time such as sex or race) cannot be estimated. To decide whether to use fixed-effects or random-effects models for analysing panel data, the Hausman test can be used. This test calculates whether the estimates from the two sets of models are significantly different from each other. If this is the case, it is often taken as an indication that the random-effects model is not appropriate for the data. However, the interpretation of the Hausman test is not always straightforward (for a more detailed discussion, see e.g., Clarke et al., 2015; Fielding, 2004). It is suggested that random- and fixed-effects models are treated as complementary rather than competing and that the results from both are explored (Clarke et al., 2015).

Previous studies have used random-effects models to analyse marriage and/or cohabitation formation (Hewitt and Baxter, 2012; Kalmijn, 2011, 2013), childbearing (Murphy and Wang, 2001), residential mobility (Thomas et al., 2018), migration (Cooke et al., 2016), or changes in life satisfaction (Zimmermann and Easterlin, 2006). There are fewer examples of demographic studies using fixed-effects models for studying individual lifecourses (e.g., Taniguchi, 1999) but there are other applications where these models are used to study siblings (e.g., Barclay, 2015; Barclay et al., 2016) or the role of context in the risk of divorce (Lyngstad, 2011).

### 4.3 HOLISTIC APPROACHES

Holistic approaches aim to describe the lifecourse as a ‘whole’ by studying entire lifecourse trajectories (that is, sequences of states) and grouping individuals with different patterns of trajectories according to how similar they are (sequence analysis and multi-channel sequence analysis), based on subgroups of trajectories over time (latent class growth models), or by studying transitions between different latent classes (latent transition analysis). This section describes sequence analysis and its extension (multi-channel sequence analysis), latent class growth models, and latent transition analysis.

#### 4.3.1 Sequence Analysis

Sequence analysis is a holistic, longitudinal descriptive tool, which allows researchers to study entire lifecourse trajectories. The analysis comprises four main steps, which we describe based on Mikolai and Lyons-Amos (2017). In the first step, each individual’s trajectory is represented by a sequence of characters, which indicate the state individuals occupied at each time point (month or year, depending on the level of detail available in the data) during their lifecourse. This character string captures the order as well as the duration of states occupied by individuals. For example, if studying partnership trajectories, individuals could be in one of the following states in a given time point: single, cohabiting, married, or separated. As usually only few individuals experience the exact same trajectory, the number of possible sequences in the dataset tends to be large. This means that it is not easy to draw conclusions about individuals’ trajectories.

Therefore, the second step is to reduce the number of individual sequences in the data. Several methods have been proposed to carry out this step (for a critical review, see Studer and Ritschard, 2016); here we describe the most commonly used technique, Optimal Matching Analysis (OMA). OMA measures how similar/dissimilar each pair of individual sequences

are. Similarity is defined in terms of the number of operations needed to turn one individual sequence into another. Three such operations are possible: replacement (one state is replaced by another one), insertion (an additional state is added to the sequence), and deletion (a state is deleted from the sequence). To each of these operations, a cost is attached and the distance between two sequences is defined as the minimum cost of the operations that are necessary to transform one sequence into the other (Abbott and Tsay, 2000). These distances are recorded in a dissimilarity matrix.

Third, cluster analysis is applied to this dissimilarity matrix to find existing patterns in the data. During cluster analysis, individual sequences are grouped together such that the within-cluster distances are minimised and the between-cluster distances are maximised. In other words, individual sequences in a cluster will be as similar to each other as possible and as different from those in other clusters as possible. Individuals are allocated to clusters based on Ward's distance. Each individual is allocated to one cluster.

After defining these clusters, the categorical variable denoting the cluster individuals belong to is used as the dependent variable in multinomial logistic regression analysis to estimate the influence of key covariates of interest on individuals' trajectories and to understand the characteristics of individuals who belong to each cluster. Sequence analysis has been used to study family life trajectories (Elzinga and Liefbroer, 2007), retirement pathways (Fasang, 2010), school-to-work transitions (Brzinsky-Fay, 2007), residential mobility (Falkingham et al., 2016), or housing trajectories (Köppe, 2017; Mikolai and Kulu, 2019). Sequence analysis can be performed in Stata using the *sq* (Brzinsky-Fay et al., 2006) or the *sadi* package (Halpin, 2017); or in R using the *TraMineR* package (Gabadinho et al., 2011).

### **4.3.2 Extension to Sequence Analysis**

Sequence analysis can be used to describe individuals' trajectories in a single life domain. However, individual lifecourses consist of several parallel life domains, which are interrelated. To study the interrelationship between multiple life domains, so-called multi-channel sequence analysis can be used (Gauthier et al., 2010; Pollock, 2007). Multi-channel sequence analysis is an extension to sequence analysis where each life domain is described in a similar way as explained in Section 4.3.1. The main difference is that OMA is extended to include multiple dimensions. This approach provides more robust and more reliable outcomes than analysing interdependent trajectories using separate analyses for each dimension (Gauthier et al., 2010). Multi-channel sequence analysis has been used to study work and family trajectories (Madero-Cabib and Fasang, 2016; McMunn et al., 2015; Salmela-Aro et al., 2011; Schwanitz, 2017), employment, housing and family trajectories (Pollock, 2007), family and independence trajectories (Sironi et al., 2015), and family formation patterns of parents and their children (Fasang and Raab, 2014). Multi-channel sequence analysis can be performed in R using the *TraMineR* package (Gabadinho et al., 2011).

### **4.3.3 Latent Class Growth Models**

Another holistic approach to analysing individual lifecourses is latent class growth models (LCGM), or more generally growth mixture models. These are a form of longitudinal analysis that allow us to identify subgroups within overall populations even if the subgroups have radically different underlying patterns and covariate effects (Jung and Wickrama, 2008). Figure

4.5 represents an example of an LCGM. All observed variables are presented using boxes; these variables are also referred to as manifest variables. The model is structured by observing a variable of interest at multiple points in time, for example, partnership status at a certain age as done by Perelli-Harris and Lyons-Amos (2015, 2016). Changes in this variable over time are captured by drawing a curve (that is, a growth curve) using an intercept (which captures the level of the variable at the start of observation) and a slope (which captures change in the level of the variable over time). These variables are dependent on the class of membership; there are different population subgroups (classes) with different intercept and slope values, allowing for different patterns over time. Figure 4.5 shows a conceptualisation of this model:  $y$  is the outcome variable measured at every time point  $t$ , and  $i$  and  $s$  are the intercept and slope, respectively, which depend on class  $C$  (that is, we have a separate intercept and slope for each class). In total, we have  $j$  classes. The final element of the model consists of covariates or other variables of interest denoted by  $x$ . These variables can either be used to predict class membership (for an example, see Perelli-Harris and Lyons-Amos, 2016) or to alter the shape of the

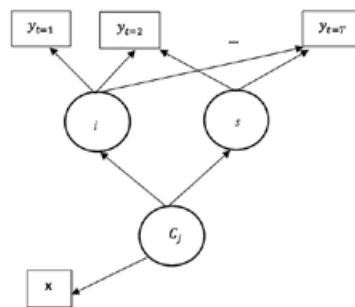


Figure 4.5 *Schematic representation of a latent class growth model*

growth curve by influencing the slope parameters (e.g., see Mikolai and Lyons-Amos, 2017). This method is relatively new in demographic analysis but it has been more commonly used in psychology (e.g., Perlman et al., 2015) as well as other social behavioural sciences to study alcohol use (Delucchi et al., 2004), criminal recidivism (Hein et al., 2017), and narcotic use (Taylor et al., 2017). Previous studies in demography have used LCGM to study marriage and employment (Dariotis et al., 2011), partnership patterns (Mikolai and Lyons-Amos, 2017; Perelli-Harris and Lyons-Amos, 2015, 2016), and abortion (Jagannathan, 2012). LCGMs can be implemented in Mplus, SAS (proc traj), or R (lcmm).

#### 4.3.4 Latent Transition Analysis

Latent transition analysis (LTA) is a type of latent class analysis. Latent class analysis is a probabilistic method that is used to form substantive groupings within the data. The method aims to form groups (latent classes) based on observed variables in a dataset (that is, manifest variables). These classes are formed so that they have a substantive meaning based on the profile of the variables that are used to form them. The underlying assumption in latent

class analysis is that individuals belong to a finite number of classes that cannot be observed (Barban and Billari, 2012).

In LTA the aim is not only to form latent classes based on observed variables but also to calculate individuals' probability to move from one latent class to another over time. The main difference between LCGM and LTA is that while LCGM makes use of the entire longitudinal profile of individuals to form classes, in LTA classes are formed at each time point (for example, wave). Figure 4.6 shows the schematic representation of a latent transition model, where a latent class is formed at each time point, based on the various observed  $y$  variables. In total,  $n$  observed variables are used to form the latent classes. These responses are observed at a number of time points, denoted by  $t$  (there are  $T$  time points in total). At each time point, a latent class ( $C$ ) is formed (there are  $j$  latent classes). The movement between different latent classes over time is captured by the transition from one class to another, denoted by the arrows between  $C_{t=1,j}$ ,  $C_{t=2,j}$ , and  $C_{t=T,j}$ . It is also possible to include covariates in LTA (as denoted by  $\mathbf{x}$  in Figure 4.6) to establish the effect of covariate information on the transition probability between classes. Estimating these covariate effects involves an additional set of parameters that are multinomial logistic regression coefficients linking predictors to latent status membership and transitions over time (Chung et al., 2005).

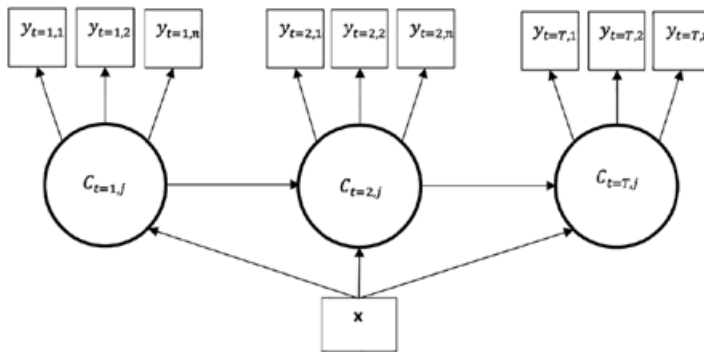


Figure 4.6 Schematic representation of a latent transition model

Previous studies have used LTA to study dating and risky sexual behaviour (Lanza and Collins, 2008), puberty and substance use (Chung et al., 2005), work and family role combinations (Ross et al., 2009), as well as the effect of marital conflict resolution behaviour on the likelihood of divorce (Houts et al., 2008). LTA can be estimated using general latent analysis software such as MPlus, as well as packages in SAS (proc lta or proc lca) or in Stata (gllamm or lca). There are also specialist packages, such as WinLTA, which is freely available for estimating latent transition models.

#### 4.4 CONCLUSION AND DISCUSSION

This chapter has provided an applied description of the most commonly used event-based (event history analysis and its extensions, and panel regression) and holistic (sequence anal-

ysis, multi-channel sequence analysis, LCGMs, and LTA) analytical approaches to studying individual lifecourses using longitudinal data.

The choice of which method to use for longitudinal data analysis can be overwhelming. In this section, we provide some guidelines partially based on our previous work (Mikolai and Lyons-Amos, 2017) on how to decide which method of analysis to use. Event history analysis is the most appropriate method for studying the influence of key covariates of interest on the timing and occurrence of certain lifecourse events. This method can be extended to analyse different types of events, multiple events, as well as repeated events. Additionally, it is the most powerful event-based analysis technique for dealing with censoring and for studying changing covariate effects over the lifecourse by incorporating time-varying covariates.

Panel regression is also an event-based method but in its applications the focus is not so much on transitions but on discrete changes over time. Within demography, the ability to draw causal inference has meant that many applications are from the econometric or policy focused literature (e.g., Carpenter et al., 2018). There are two approaches to panel regression (random and fixed-effects models) based on whether or not we include higher-level terms in the analysis. If the hierarchical structure of the data and contextual variables are an important part of the research question, random-effects models are well suited to analysing panel data. However, when the focus is on identifying causal effects, fixed-effects models should be used because they remove the effect of all time-invariant individual-level confounders from the analysis.

The toolbox of longitudinal data analysis consists not only of event-based approaches but also several holistic approaches that have been developed. These methods include sequence analysis, multi-channel sequence analysis, LCGMs, and LTA. Sequence analysis is best suited to studying questions where the aim is to describe patterns of behaviours of different groups in the dataset and the association between the probability of belonging to these groups and key individual-level characteristics. Sequence analysis is, thus, a powerful tool for visualising individual lifecourse trajectories. Additionally, when the research question concerns the link between several interrelated life domains, multi-channel sequence analysis can be used to describe how interrelated trajectories develop across individuals' lifecourses. One weakness of sequence analysis is that it cannot incorporate time-varying variables and, thus, it cannot be used to address questions related to changing covariate effects over the lifecourse. Additionally, the decision of which method to choose to calculate distances between individual sequences can be subjective, and so can be the decision on the number of clusters.

LCGMs share some similarities with sequence analysis. However, LCGM can incorporate more complex structures by, for example, incorporating covariate information when calculating the shape of the growth curves. In LCGM, more fit statistics are available to decide on the number of classes to be extracted from the data than in sequence analysis and these fit statistics are model-based. This means that the decision on the optimal number of classes is less arbitrary than it is in sequence analysis. One disadvantage of LCGM is that it is computationally intense and requires considerable computing power to estimate models on larger datasets or for more complicated model structures such as those in Mikolai and Lyons-Amos (2017) or Perelli-Harris and Lyons-Amos (2015, 2016). LCGM is best suited to analyse research questions that focus on identifying differences in covariate effects between groups of individuals.

LTA also relies on the formation of subgroups, except in this instance the subgroups are formed at each point in time, and the intensity of transitions between the different groups is the focus of the analysis. This method can be used when the researcher is interested in measuring changes in membership of substantive population subgroups over time. The formation

of a class for each point in time means that the number of time points cannot be large for these types of models; typically, the analysis is restricted to incorporating fewer than half a dozen waves of longitudinal datasets.

To summarise, this chapter has briefly described the most commonly applied longitudinal data analysis techniques and has provided an applied evaluation of the type of research questions that may be addressed using these techniques.

## REFERENCES

- Aassve, A., Burgess, S., Propper, C., and Dickson, M. (2006). Employment, family union and childbearing decisions in Great Britain. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, **169**(4), 781–804. doi:10.1111/j.1467-985X.2006.00432.x
- Abbott, A. and Tsay, A. (2000). Sequence analysis and optimal matching methods in sociology: review and prospect. *Sociological Methods & Research*, **29**(1), 3–33. doi:10.1177/0049124100029001001
- Allison, D. (2014). *Event History and Survival Analysis* (second edn). Thousand Oaks, CA: Sage.
- Andersen, P.K. and Perme, M.P. (2008). Inference for outcome probabilities in multi-state models. *Lifetime Data Analysis*, **14**(4), 405–31. doi:10.1007/s10985-008-9097-x
- Baizán, P., Aassve, A., and Billari, F.C. (2004). The interrelations between cohabitation, marriage and first birth in Germany and Sweden. *Population and Environment*, **25**, 531–60. doi:10.1023/B:POEN.0000039064.65655.3b
- Barban, N. and Billari, F.C. (2012). Classifying life course trajectories: a comparison of latent class and sequence analysis. *Journal of the Royal Statistical Society: Series C (Applied Statistics)*, **61**, 765–84.
- Barclay, K.J. (2015). A within-family analysis of birth order and intelligence using population conscription data on Swedish men. *Intelligence*, **49**, 134–43. doi:https://doi.org/10.1016/j.intell.2014.12.007
- Barclay, K.J., Keenan, K., Grundy, E., Kolk, M., and Myrskylä, M. (2016). Reproductive history and post-reproductive mortality: a sibling comparison analysis using Swedish register data. *Social Science & Medicine*, **155**, 82–92. doi:https://doi.org/10.1016/j.socscimed.2016.02.043
- Beck, U. and Beck-Gernsheim, E. (1996). Individualisation and ‘precarious freedoms’: perspectives and controversies of a subject-orientated sociology. In P. Helaas, S. Lash, and P. Morris (eds), *Detraditionalization. Critical Reflections on Authority and Identity* (pp. 23–48). Cambridge: Blackwell Publishers.
- Begall, K. and Mills, M.C. (2013). The influence of educational field, occupation, and occupational sex segregation on fertility in the Netherlands. *European Sociological Review*, **29**(4), 720–42.
- Berrington, A. (2001). Entry into parenthood and the outcome of cohabiting partnerships in Britain. *Journal of Marriage and Family*, **63**(1), 80–96. doi:10.1111/j.1741-3737.2001.00080.x
- Berrington, A. and Diamond, I. (1999). Marital dissolution among the 1958 British birth cohort: the role of cohabitation. *Population Studies*, **53**(1), 19–38. doi:10.1080/00324720308066
- Berrington, A. and Diamond, I. (2000). Marriage or cohabitation: a competing risks analysis of first-partnership formation among the 1958 British birth cohort. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, **163**, 127–51.
- Billari, F.C. (2005). Life course analysis: two (complementary) cultures? Some reflections with examples from the analysis of the transition to adulthood. *Advances in Life Course Research*, **10**, 261–81.
- Billari, F.C. and Liefbroer, A.C. (2007). Should I stay or should I go? The impact of age norms on leaving home. *Demography*, **44**(1), 181–98.
- Billari, F.C. and Liefbroer, A.C. (2010). Towards a new pattern of transition to adulthood? *Advances in Life Course Research*, **15**(2–3), 59–75. doi:10.1016/j.alcr.2010.10.003
- Billari, F.C. and Philipov, D. (2004). Women’s education and entry into a first union. A simultaneous-hazard comparative analysis of Central and Eastern Europe. *Vienna Yearbook of Population Research*, 91–110.
- Bonetti, M., Piccarreta, R., and Salford, G. (2013). Parametric and nonparametric analysis of life courses: an application to family formation patterns. *Demography*, **50**, 881–902.

- Brien, M.J., Lillard, L.A., and Waite, L.J. (1999). Interrelated family-building behaviors: cohabitation, marriage, and nonmarital conception. *Demography*, **36**(4), 535–51. doi:10.2307/2648089
- Brückner, H. and Mayer, K.U. (2005). De-standardization of the life course: what it might mean? And if it means anything, whether it actually took place? *Advances in Life Course Research*, **9**, 27–53. doi: 10.1016/s1040-2608(04)09002-1
- Brzinsky-Fay, C. (2007). Lost in transition? Labour market entry sequences of school leavers in Europe. *European Sociological Review*, **23**(4), 409–22.
- Brzinsky-Fay, C., Kohler, U., and Luniak, M. (2006). Sequence analysis with Stata. *The Stata Journal*, **6**(4), 435–60.
- Bukodi, E. (2012). The relationship between work history and partnership formation in cohorts of British men born in 1958 and 1970. *Population Studies*, **66**(2), 123–45. doi:10.1080/00324728.2012.656853
- Carpenter, C., Eppink, S.T., Gonzales, G., Jr, and McKay, T. (2018). Effects of access to legal same-sex marriage on marriage and health: evidence from BRFSS. NBER Working Paper Series, Working Paper 24621.
- Chung, H., Park, Y., and Lanza, S.T. (2005). Latent transition analysis with covariates: pubertal timing and substance use behaviours in adolescent females. *Statistics in Medicine*, **24**(18), 2895–910. doi: doi:10.1002/sim.2148
- Clarke, P., Crawford, C., Steele, F., and Vignoles, A. (2015). Revisiting fixed- and random-effects models: some considerations for policy-relevant education research. *Education Economics*, **23**(3), 259–77.
- Cooke, T.J., Mulder, C.H., and Thomas, M. (2016). Union dissolution and migration. *Demographic Research*, **34**, 741–60.
- Cox, D.R. (1972). Regression models and life-tables. *Journal of the Royal Statistical Society*, **34**, 187–220.
- Dariotis, J.K., Pleck, J.H., Astone, N.M., and Sonenstein, F.L. (2011). Pathways of early fatherhood, marriage, and employment: a latent class growth analysis. *Demography*, **48**(2), 593–623. doi:10.1007/s13524-011-0022-7
- de Wreede, L.C., Fiocco, M., and Putter, H. (2011). mstate: an R package for the analysis of competing risks and multi-state models. *Journal of Statistical Software*, **38**(7), 1–30.
- Delucchi, K.L., Matzger, H., and Weisner, C. (2004). Dependent and problem drinking over 5 years: a latent class growth analysis. *Drug and Alcohol Dependence*, **74**(3), 235–44.
- Diekmann, A. and Engelhardt, H. (1999). The social inheritance of divorce: effects of parent's family type in postwar Germany. *American Sociological Review*, **64**, 783–93.
- Elder, G.H.J. (1975). Age differentiation and the life course. *Annual Review of Sociology*, **1**, 165–90.
- Elder, G.H.J. (1985). *Life Course Dynamics. Trajectories and Transitions, 1968–1980*. Ithaca, NY: Cornell University Press.
- Elzinga, C.H. and Liefbroer, A.C. (2007). De-standardization of family-life trajectories of young adults: a cross-national comparison using sequence analysis. *European Journal of Population/Revue européenne de Démographie*, **23**(3–4), 225–50. doi:10.1007/s10680-007-9133-7
- Falkingham, J., Sage, J., Stone, J., and Vlachantoni, A. (2016). Residential mobility across the life course: continuity and change across three cohorts in Britain. *Advances in Life Course Research*, **30**, 111–23.
- Fasang, A.E. (2010). Retirement: institutional pathways and individual trajectories in Britain and Germany. *Sociological Research Online*, **15**(2), 1–16.
- Fasang, A.E. and Raab, M. (2014). Beyond transmission: intergenerational patterns of family formation among middle-class American families. *Demography*, **51**(5), 1703–28.
- Fielding, A. (2004). The role of the Hausman test and whether higher level effects should be treated as random or fixed. *Multilevel Modelling Newsletter*, **16**(2), 3–9.
- Gabadinho, A., Ritschard, G., Müller, N.S., and Studer, M. (2011). Analyzing and visualizing state sequences in R with TraMineR. *Journal of Statistical Software*, **40**(4), 1–37.
- Gałęzewska, P., Perelli-Harris, B., and Berrington, A. (2017). Cross-national differences in women's repartnering behaviour in Europe: the role of individual demographic characteristics. *Demographic Research*, **37**, 189–228.
- Gauthier, J., Widmer, E.D., Bucher, P., and Notredame, C. (2010). Multichannel sequence analysis applied to social science data. *Sociological Methodology*, **40**(1), 1–38.

- Giddens, A. (1984). *The Constitution of Society: Outline of the Theory of Structuration*. Cambridge: Polity Press.
- Halpin, B. (2017). SADI: sequence analysis tools for Stata. *The Stata Journal*, **17**(3), 546–72.
- Hein, S., Barbot, B., Square, A., Chapman, J., Foley Geib, C., and Grigorenko, E.L. (2017). Violent offending among juveniles: a 7-year longitudinal study of recidivism, desistance, and associations with mental health. *Law and Human Behavior*, **41**(3), 273–83.
- Hewitt, B. and Baxter, J. (2012). Who gets married in Australia? The characteristics associated with a transition into first marriage 2001–6. *Journal of Sociology*, **48**(1), 43–61. doi:10.1177/1440783311411957
- Houts, R.M., Barnett-Walker, K.C., and Cox, M.J. (2008). Patterns of couple interaction during the transition to parenthood. *Personal Relationships*, **15**(1), 103–22.
- Ivanova, K., Kalmijn, M., and Uunk, W. (2013). The effect of children on men's and women's chances of repartnering in a European context. *European Journal of Population*, **29**(4), 417–44.
- Jagannathan, R. (2012). A latent growth curve model of nonmarital births, abortions, and pregnancies: did welfare reform play a role in changing the trajectories? *Marriage and Family Review*, **48**(4), 363–85. doi:10.1080/01494929.2012.674481
- Jalovaara, M. (2012). Socio-economic resources and first-union formation in Finland, cohorts born 1969–81. *Population Studies*, **66**(1), 69–85. doi:10.1080/00324728.2011.641720
- Jang, B., Casterline, J., and Snyder, A. (2014). Migration and marriage: modeling the joint process. *Demographic Research*, **30**, 1339–66.
- Jung, T. and Wickrama, K.A.S. (2008). An introduction to latent class growth analysis and growth mixture modeling. *Social and Personality Psychology Compass*, **2**(1), 302–17. doi:10.1111/j.1751-9004.2007.00054.x
- Kalmijn, M. (2011). The influence of men's income and employment on marriage and cohabitation: testing Oppenheimer's theory in Europe. *European Journal of Population*, **27**, 269–93.
- Kalmijn, M. (2013). The educational gradient in marriage: a comparison of 25 European countries. *Demography*, **50**, 1499–520.
- Katus, K., Puur, A., Poldma, A., and Sakkeus, L. (2007). First union formation in Estonia, Latvia, and Lithuania: patterns across countries and gender. *Demographic Research*, **17**, 247–300.
- Klein, J.P. and Shu, Y.Y. (2002). Multi-state models for bone marrow transplantation studies. *Statistical Methods in Medical Research*, **11**(2), 117–39. doi:10.1191/0962280202sm277ra
- Köppe, S. (2017). Britain's new housing precariat: housing wealth pathways out of homeownership. *International Journal of Housing Policy*, **17**(2). doi:10.1080/14616718.2016.1185286
- Kreyenfeld, M. (2004). Fertility decisions in the FRG and GDR: an analysis with data from the German Fertility and Family Survey. *Demographic Research, Special Collection 3*, 275–318.
- Kulu, H. (2004). Determinants of residence and migration in the Soviet Union after World War 2: the immigrant population in Estonia. *Environment and Planning A*, **36**(2), 305–25.
- Kulu, H. (2008). Fertility and spatial mobility in the life course: evidence from Austria. *Environment and Planning A*, **40**(3), 632–52.
- Kulu, H. (2014). Marriage duration and divorce: the seven-year itch or a lifelong itch? *Demography*, **51**, 881–93.
- Kulu, H. and Boyle, P.J. (2010). Premarital cohabitation and divorce: support for the 'Trial Marriage' Theory? *Demographic Research*, **23**, 879–904. doi:10.4054/DemRes.2010.23.31
- Kulu, H. and Steele, F. (2013). Interrelationships between childbearing and housing transitions in the family life course. *Demography*, **50**(5), 1687–714.
- Kulu, H. and Vikat, A. (2007). Fertility differences by housing type: the effect of housing conditions or selective moves? *Demographic Research*, **17**, 775–802.
- Lanza, S.T. and Collins, L.M. (2008). A new SAS procedure for latent transition analysis: transitions in dating and sexual risk behavior. *Developmental Psychology*, **44**(2), 446–56.
- Lappegård, T. and Rønsen, M. (2005). The multifaceted impact of education on entry into motherhood. *European Journal of Population*, **21**, 31–49.
- Lersch, P.M. and Vidal, S. (2014). Falling out of love and down the housing ladder: a longitudinal analysis of marital separation and home ownership. *European Sociological Review*, **30**(4), 512–24.



- Lesthaeghe, R. and van de Kaa, D.J. (1986). Twee demografische transitie's? (Two demographic transitions?). In D.J. van de Kaa and R. Lesthaeghe (eds), *Bevolking: Groei en krimp (Population: Growth and Crimp)* (pp. 9–24). Deventer: Van Loghum Slaterus.
- Liefbroer, A.C. (1999). From youth to adulthood: understanding changing patterns of family formation from a life course perspective. In L.J.C. van Wissen and P.A. Dykstra (eds), *Population Issues. An Interdisciplinary Focus* (pp. 53–86). New York: Kluwer Academic/Plenum Publishers.
- Liefbroer, A.C. and Toulemon, L. (2010). Demographic perspectives on the transition to adulthood: an introduction. *Advances in Life Course Research*, **15**(2–3), 53–8. doi:10.1016/j.alcr.2010.10.002
- Lillard, L.A. and Waite, L.J. (1993). A joint model of marital childbearing and marital disruption. *Demography*, **30**(4), 653–81. doi:10.2307/2061812
- Luke, D.A. (2004). *Multilevel Modeling*. Thousand Oaks, CA: Sage.
- Lygstad, T.H. (2011). Does community context have an important impact on divorce risk? A fixed-effects study of twenty Norwegian first-marriage cohorts. *European Journal of Population/Revue européenne de Démographie*, **27**(1), 57–77. doi:10.1007/s10680-010-9226-6
- Madero-Cabib, I. and Fasang, A.E. (2016). Gendered work–family life courses and financial well-being in retirement. *Advances in Life Course Research*, **27**, 43–60.
- Mayer, K.U. (2000). Promises fulfilled? A review of 20 years of life course research. *European Journal of Sociology*, **41**(2), 259–82.
- Mayer, K.U. (2009). New directions in life course research. *Annual Review of Sociology*, **35**, 413–43.
- McMunn, A., Lacey, R., Worts, D. et al. (2015). De-standardization and gender convergence in work–family life courses in Great Britain: a multi-channel sequence analysis. *Advances in Life Course Research*, **26**, 60–75.
- Mikolai, J. (2012). With or without you. Partnership context of first conceptions and births in Hungary. *Demografia English Edition*, **55**(5), 37–60.
- Mikolai, J. and Kulu, H. (2018a). Divorce, separation and housing changes: a multiprocess analysis of longitudinal data from England and Wales. *Demography*, **55**(1), 83–106.
- Mikolai, J. and Kulu, H. (2018b). Short- and long-term effects of divorce and separation on housing tenure in England and Wales. *Population Studies*, **72**(1), 17–39. doi:10.1080/00324728.2017.1391955
- Mikolai, J. and Kulu, H. (2019). Union dissolution and housing trajectories in Britain. *Demographic Research*, **41**, 161–96.
- Mikolai, J. and Lyons-Amos, M.J. (2017). Longitudinal methods for life course research: a comparison of sequence analysis, latent class growth models, and multistate event history models for studying partnership transitions. *Longitudinal and Life Course Studies*, **8**(2), 191–208.
- Mikolai, J., Berrington, A., and Perelli-Harris, B. (2018). The role of education in the intersection of partnership transitions and motherhood in Europe and the United States. *Demographic Research*, **39**, 753–94.
- Mills, M. (2004). Stability and change: the structuration of partnership histories in Canada, the Netherlands, and the Russian Federation. *European Journal of Population*, **20**(2), 141–75. doi:10.1023/B:EUJP.0000033862.83081.ad
- Murphy, M. and Wang, D. (2001). Family-level continuities in childbearing in low-fertility societies. *European Journal of Population/Revue européenne de Démographie*, **17**, 75–96.
- Pelikh, A. and Kulu, H. (2018). Short- and long-distance moves of young adults during the transition to adulthood in Britain. *Population, Space and Place*, **24**(5), 1–14.
- Perelli-Harris, B. and Gerber, T.P. (2011). Nonmarital childbearing in Russia: second demographic transition or pattern of disadvantage? *Demography*, **48**(1), 317–42. doi:10.1007/s13524-010-0001-4
- Perelli-Harris, B. and Lyons-Amos, M. (2015). Changes in partnership patterns across the life course: an examination of 14 countries in Europe and the United States. *Demographic Research*, **33**, 145–78.
- Perelli-Harris, B. and Lyons-Amos, M.J. (2016). Partnership patterns in the United States and across Europe: ‘diverging destinies’ or ‘diverging contexts’? *Social Forces*, **95**(1), 251–82.
- Perelli-Harris, B., Sigle-Rushton, W., Kreyenfeld, M., Lappegård, T., Keizer, R., and Berghammer, C. (2010). The educational gradient of childbearing within cohabitation in Europe. *Population and Development Review*, **36**(4), 775–801. doi:10.1111/j.1728-4457.2010.00357.x
- Perlman, M., Lyons-Amos, M.J., Leckie, G., Steele, F., and Jenkins, J. (2015). Capturing the temporal sequence of interaction in young siblings. *PLoS One*, **10**(5), e0126353.

- Pollock, G. (2007). Holistic trajectories: a study of combined employment, housing and family careers by using multiple-sequence analysis. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, **170**(1), 167–83.
- Preston, S.H., Heuveline, P., and Guillot, M. (2001). *Demography. Measuring and Modeling Population Processes*. Oxford: Blackwell Publishers.
- Ross, A., Schoon, I., Martin, P., and Sacker, A. (2009). Family and nonfamily role configurations in two British cohorts. *Journal of Marriage and Family*, **71**(1), 1–14. doi:10.1111/j.1741-3737.2008.00576.x
- Salmela-Aro, K., Kiuru, N., Nurmi, N., Nurmi, J., and Eerola, M. (2011). Mapping pathways to adulthood among Finnish university students: sequences, patterns, variations in family- and work-related roles. *Advances in Life Course Research*, **16**, 25–41.
- Schwanitz, K. (2017). The transition to adulthood and pathways out of the parental home: a cross-national analysis. *Advances in Life Course Research*, **32**, 21–34.
- Shanahan, M.J. (2000). Pathways to adulthood in changing societies: variability and mechanisms in life course perspective. *Annual Review of Sociology*, **26**, 667–92.
- Sironi, M., Barban, N., and Impicciatore, R. (2015). Parental social class and the transition to adulthood in Italy and the United States. *Advances in Life Course Research*, **26**, 89–104.
- Steele, F., Goldstein, H., and Browne, W. (2004). A general multilevel multistate competing risks model for event history data, with an application to a study of contraceptive use dynamics. *Statistical Modelling*, **4**(2), 145–59. doi:10.1191/1471082X04st069oa
- Steele, F., Kallis, C., Goldstein, H., and Joshi, H. (2005). The relationship between childbearing and transitions from marriage and cohabitation in Britain. *Demography*, **42**(4), 647–73. doi:10.1353/dem.2005.0038
- Studer, M. and Ritschard, G. (2016). What matters in differences between life trajectories: a comparative review of sequence dissimilarity measures. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, **179**(2), 481–511.
- Taniguchi, H. (1999). The timing of childbearing and women's wages. *Journal of Marriage and Family*, **61**(4), 1008–19. doi:10.2307/354020
- Taylor, M., Collin, S.M., Munafò, M.R., MacLeod, J., Hickman, M., and Heron, J. (2017). Patterns of cannabis use during adolescence and their association with harmful substance use behaviour: findings from a UK Birth Cohort. *Journal of Epidemiology and Community Health*, **71**(8), 764–70.
- Thomas, M.J., Mulder, C.H., and Cooke, T. (2018). Geographical distances between separated parents: a longitudinal analysis. *European Journal of Population*, **34**(4), 463–89.
- Upchurch, D.M., Lillard, L.A., and Panis, C.W.A. (2002). Nonmarital childbearing: influences of education, marriage, and fertility. *Demography*, **39**(2), 311–29. doi:10.1353/dem.2002.0020
- van de Kaa, D.J. (2002). The idea of the Second Demographic Transition in industrialized countries. Paper presented at the Sixth Welfare Policy Seminar of the National Institute of Population and Social Security Tokyo, Japan.
- Zimmermann, A.C. and Easterlin, R.A. (2006). Happily ever after? Cohabitation, marriage, divorce, and happiness in Germany. *Population and Development Review*, **32**(3), 511–28. doi:10.1111/j.1728-4457.2006.00135.x

## PART II

# DATA AND INNOVATION IN LIFECOURSE RESEARCH

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## 5. Current and future contributions of the Generations and Gender Programme to lifecourse research

*Luisa Fadel, Tom Emery and Anne H. Gauthier*

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### 5.1 THE GGP'S APPROACH TO LIFECOURSE RESEARCH

The Generations and Gender Programme (GGP) is a social science research infrastructure that provides harmonized, large-scale, longitudinal, cross-national panel data on individual lifecourses and family dynamics. These data significantly improve the knowledge base for social science and policymaking in Europe and developed countries elsewhere. The main goal of the GGP is to improve and share understanding of demographic and social developments and the factors associated with these developments. It focuses on the determinants, transitions, and qualities of the relationships between generations and genders.

Launched in 2000 by the Population Unit of the United Nations Economic Commission for Europe (UNECE), the GGP is the successor to the Fertility and Family Survey (FFS) project, which was conducted in the 1990s. In its time, the FFS radically advanced social science research by collecting the first comparative, retrospective event histories from 24 countries in the UNECE region. Based on these data, a very large number of studies were published, including over 300 peer-reviewed articles on the determinants and consequences of demographic behavior. Following from this successful experience, the GGP further built on the FFS' approach, including the addition of new fundamental elements (for example, adopting a prospective view) for understanding how the new social and economic realities impact contemporary societies.

The GGP infrastructure is run by a consortium of partners with strong traditions in academic and policy-related research on population and family change and survey methodology. The GGP conducted the first panel waves in 2004 for a broad range of Western, Central and Eastern European countries as well as a few non-European countries. The core component of the GGP is the Generations and Gender Survey (GGS): a micro-level survey data on intergenerational and gender relationships from more than 280,000 individuals aged 18–79 in 22 countries.<sup>1</sup> Moreover, the GGP offers a Contextual Database that provides updated information on a wide range of aggregate-level indicators to capture the societal context in which demographic changes at the individual level are taking place.

Central to the GGP are the generational and gender interdependencies in families and other social networks, and how the educational system, the labor market, the housing market, civil society, and welfare state policies have shaped these relationships. To move toward a clear understanding of the challenges facing contemporary society, data must be based on a lifecourse perspective that considers the ways people's lives are shaped by earlier life circumstances; the families and social networks in which people are embedded; and the institutional, cultural, and economic context. The GGP fulfills these needs through its many inno-

vative characteristics: cross-national comparability (allowing analyses of the ways in which policies, culture, and economic circumstances influence dependencies between genders and generations), longitudinal design (affording the examination of the causes and consequences of inequalities between men and women, and the young and the old), a large sample size (permitting the study of numerical minorities and infrequent events), a broad age range (addressing research and policy issues across the entire lifecourse), the combination of micro and macro data (enabling analysis of individuals and families in their social, economic, political, cultural, and policy contexts), and a theory-driven and multidisciplinary questionnaire (enhancing our understanding of society).

The GGS focuses on factors related to decision-making about major life transitions such as entering the workforce, home-leaving, union formation or dissolution, having children, and retiring. It examines how family relationships work through several dimensions, including the emotional, logistical, and financial. To reflect the significant role played by economic theories in the study of fertility and the family, the survey also deals with relevant economic aspects of life such as economic activity, income, and well-being. Values and attitudes are investigated as well because they are a major force behind fertility and family change. Additionally, the GGS covers other important societal domains, including intergenerational and gender relationships, household composition and housing, residential mobility, education, health, social networks, and private and public transfers.

The GGP's premise is that the demographic features of an individual's lifecourse are linked to the socio-economic aspects. The GGP not only allows scientists to understand and explain demographic behavior but also to study the social consequences of demographic events. The comparative approach offers the opportunity to investigate how the social context is linked to processes of inclusion and inequality across countries. The longitudinal data make it possible to provide insights into how the social context influences people's lifecourse, and whether its impact depends on the individual's social background, family, or social networks.

Starting in 2020, the GGP will be carrying out a new round of data collection, bringing new insights to the most critical contemporary population challenges such as family complexity, fertility dynamics, and the life trajectories of young adults. This round of data collection will be comparable with the existing FFS and GGP data, and it will include new areas of inquiry. It will enable researchers to study population dynamics and family change, relationships between generations, and changes in the social roles of women and men, accounting for economic, social, and cultural contexts. Additionally, these new data will make it possible to investigate the differences in the outcomes of major life transitions across a broader range of European and non-European countries, from East Asia to Latin America.

## 5.2 GGP'S INSIGHTS INTO LIFECOURSE RESEARCH: PAST AND PRESENT

According to the lifecourse perspective, individuals experience several interwoven pathways or trajectories during their lives that together tell a life story. Every lifecourse is characterized by a sequence and combination of transitions, including leaving home, starting work, finding a partner, and so on. To a large extent, individuals follow "standard" patterns – the so-called "social pathways" – regarding the timing and sequence of life events and transitions. These

pathways, shaped by ethical and normative prescriptions and cultural preferences, have been largely institutionalized and incorporated into the law. They have been changing steadily.

Understanding changes in individuals' trajectories and the resulting implications is crucial for addressing the upcoming challenges of the 21st century. The GGS data are unique in enabling researchers to analyse timings, ordering, and duration of major life events; they contain retrospective histories of partnership formation and dissolution, parenthood, employment, and transition out of the parental home, for a broad number of Western and Eastern European countries. In the following subsections, we will highlight some of the key contributions that have been made based on the comparative GGS data on three main themes in lifecourse research: the transition to adulthood, family dynamics and childbearing, and the influence of family dynamics on intergenerational relationships.

### **5.2.1 Transition to Adulthood**

The lifecourse perspective is useful for understanding the transition to adulthood. From the 1960s onwards, this defining life period has changed significantly in most developed countries (Billari and Liefbroer, 2010). Demographic phenomena such as cohabitation, single living, staying childless, and non-marital parenthood have become more usual and accepted, leading to an increase in both the de-standardization<sup>2</sup> and the complexity of this transition (Shanahan, 2000). Overall, Europe has experienced a substantial rise in consensual unions and unmarried cohabitation, and marriage rates have been in a gradual decline. With young people postponing union formation and childbirth, there has been a rapid increase in the mean age at first marriage and a decline in birthrates, and divorce rates are two to five times higher than in the 1960s (Sobotka and Toulemon, 2008). While the timing and sequencing of family events vary broadly across countries (for example, Mills et al., 2006; Sobotka and Toulemon, 2008), these major changes reflect the new reality in the ways in which young people form relationships and experience their transition to adulthood.

The GGP has contributed to addressing many unanswered questions and research challenges in at least three ways. First, by exploring new methodologies to assess the quantitative nature of the changes in the timing, sequencing, and occurrence of the key markers of the transition to adulthood. Second, by systematically addressing the transition to adulthood from a cross-national comparative perspective. Third, by determining whether new, dominant patterns in the transition to adulthood are emerging throughout Europe. Below we present a brief summary of the main results.

The article "De-standardization of family-life trajectories of young adults: a cross-national comparison using sequence analysis" by Cees H. Elzinga and Aart C. Liefbroer (2007) introduced a number of innovative methods to study family-life trajectories in a holistic fashion. The authors' starting point was the assumption that the changes in the lives of young adults affect the whole lifecourse instead of just one demographic event or the sequencing of some events. Rather than studying the sequencing and timing of events, they argued that we need to turn our attention to the extent and direction of changes in family-life trajectories and overcome the limitations of methodologies and tools currently in use in the social sciences for analysing these trajectories. Elzinga and Liefbroer presented several new methods that focus on sequences to investigate the de-standardization of family-life trajectories in early adulthood.

In order to investigate the transition to adulthood in a cross-national perspective, Elzinga and Liefbroer used FFS data on "baby boomers," the generation born between 1945 and 1964.

They compared 23 advanced European and non-European countries. Their results provided strong evidence in favor of the idea that family-life trajectories of young adult women were becoming more de-standardized in almost all Western countries, with a significant increase in variation in the types of family trajectories. However, contrary to expectations, the authors showed that the level of turbulence<sup>3</sup> of family-life trajectories had not increased across cohorts but was rather stable. A common trend in de-standardization did not emerge between countries characterized by different welfare state regimes.

Elzinga and Liefbroer's innovative methods not only led to interesting results, they also provided new ways to study family-life trajectories from several different life domains at once. In following up their paper, there have been multiple studies based on GGS data, such as the recent work of Katrin Schwanitz (2017) on the transition to adulthood in Europe. In this study, the author explored the cross-country differences in young adults' holistic lifecourse trajectories, focusing on whether the educational gradient differed across European countries. Several findings in the literature suggest that socio-economic status and educational level are important factors to understand the variation in the transition to adulthood. For example, young people with a high level of education or socio-economic status are more likely to stay in education longer than young people with a lower educational level. This results in young adults' postponement of union formation and childbearing until after the conclusion of their studies.

To determine if the educational gradient of young adults' lifecourse trajectories differs across European countries, Schwanitz analysed data from the second wave of the GGS for cohorts born between 1951 and 1978 in Austria, Bulgaria, Czech Republic, France, Georgia, Hungary, Lithuania, and the Netherlands. Using multichannel sequence analysis, the results showed that countries directly shape the young adults' transition to adulthood. In Western European countries, young adults tend to exit the parental home later, stay single, and cohabit longer; in Eastern Europe, lifecourse trajectories are more traditional. Whether young people cohabit differs across countries. Additionally, the author found a close association between education and lifecourse trajectories of young adults in general. The highly educated enter the labor market and become independent later, postponing marriage and childbearing. Schwanitz's findings highlight the key role of socio-economic, institutional, and normative contexts in shaping the education influence on lifecourse trajectories of young adults in Europe.

So, is a new transition to adulthood pattern emerging across Europe? A possible answer to this question can be found in the study of Francesco C. Billari and Aart C. Liefbroer (2010). Using data from the 2006 wave of the European Social Survey (ESS), they analysed the timing and sequencing of demographic events for ten-year birth cohorts from 25 European countries. Consistent with Lesthaeghe's findings (2010), the two authors hypothesized that a new, late, protracted, and complex pattern of the transition to adulthood was emerging across Europe, which has been brought about by greater individualization and emphasis on self-realization. Their results indicated that in Europe, postponement occurs for entry into a first union, marriage, and parenthood, and it is stronger for entry into marriage and parenthood than for union formation. At the same time, unmarried cohabitation and having a child outside of marriage are becoming more common. However, there are several cross-country differences in the timing of the onset of postponement and in the sequencing of major events. For example, while the trend in marriage postponement began earlier in Northern Europe, in Eastern Europe the age at entry into first marriage has only recently started to rise. Similarly, entry into a first

union by cohabitation has become the majority behavior in Northern and Western Europe. Yet, in Southern and Eastern Europe, this trend is only now showing up in the youngest cohorts. Finally, the results supported a divergence rather than convergence in demographic behavior across countries, particularly with regards to births outside of wedlock. However, the authors left open the possibility that trends in demographic behaviors during young adulthood will converge across European countries.

### **5.2.2 Family Dynamics and Childbearing**

Decreasing fertility and other changes such as the ongoing postponement of childbearing are part of what van de Kaa (1987) described as the Second Demographic Transition. These changes have become pervasive throughout the developed world, leading to a gap between people's fertility intentions and childbearing outcomes over time. This gap has created concerns from both the welfare state and from the individual well-being perspective. To investigate the possible explanatory factors behind this phenomenon, studies have focused on cultural (Lesthaeghe and Surkyn, 1988) and economic conditions (Gustafsson, 2001). These found that personal self-fulfillment and changes in women's earnings profiles over time have contributed to childbearing postponement. However, research on fertility intentions has shown that positive fertility intentions are not always realized (Régnier-Loilier and Vignoli, 2011; Spéder and Kapitány, 2014).

In order to understand trends of decreasing fertility, the focus has been on analysing fertility intentions and fertility realization within the framework of Ajzen's (1985) Theory of Planned Behavior (TPB), a model used for explaining and/or predicting behavior (Ajzen and Klobas, 2013; Billari et al., 2009; Liefbroer, 2011). According to this theory, individuals' intention to perform a behavior is seen as the immediate determinant of that action, and individuals' intention is viewed as a function of three determinants: attitudes, subjective norms, and perceived behavioral control. Applying the TPB framework to fertility decisions has revealed that more positive attitudes, more positive subjective norms, and greater perceived control over having a child are related to a more positive intention to having a child. Human fertility has been widely studied using TPB with GGS data, which include several items useful to operationalize TPB (Ajzen and Klobas, 2013; Klobas, 2010; Klobas and Ajzen, 2015). The predictive value of TPB, however, has been mixed with some studies highlighting the framework's limitations.

One important contribution comes from Lars Dommermuth, Jane Klobas, and Trude Lappegård (2011). In this study, the authors focused on the intention to have a child within a specified time frame. Following the TPB, they aimed to provide new insights into whether the impact of attitudes, subjective norms, perceived behavioral control, and background factors on the formation of fertility intentions differ between parents and childless individuals. Data from the GGS provided measures of attitudes toward having a child (ten items), subjective norms (three items), perceived behavioral control (ten items), and objective measures of the respondents' situation. These were used to test whether the perceived behavioral control completely mediated their effect on fertility intention (Ajzen, 2006). The results suggested that the TPB provides a valid theoretical framework for understanding fertility decision-making. For example, in Norway, among parents, positive attitudes are associated with short-term fertility intentions (even after controlling for background variables). This holds true even if negative attitudes are not associated with the time frame of the intention to have a child. Subjective norms influence fertility intentions and the time frame of a formed fertility



intention. Similarly, there is a positive association between perceived behavioral control and fertility intentions for both childless individuals and parents. However, after controlling for the respondents' age, educational level, partnership status, and desired family structure, this relationship disappears.

A few years later, Dommermuth et al. (2015) focused on how the time frame is important for the realization of fertility intentions. An implication of the TPB is that individuals with immediate fertility intentions should be more likely to realize their intentions. The authors therefore tested this TPB aspect by comparing the childbearing behavior of people who want a child immediately with the behavior of people with more long-term fertility intentions. To do so, they analysed data from the Norwegian GGS 2007, combined with data from the Population Register on the birth histories of the following four years. Their results indicated that, in line with the TPB, there is an association between the time frame of fertility intention and childbearing behavior. However, respondents who already had children at the time of the interview showed different patterns than respondents who were childless. First, childless individuals were found to be less likely to conceive in the short term than those who were already parents. Second, childless individuals with immediate fertility intentions were more likely to realize their intention to have a child than childless individuals with a longer-term intention. Third, parents with an immediate fertility intention were also more likely to realize their fertility intention than parents with a longer-term intention.

In a similar vein, Letizia Mencarini, Daniele Vignoli, and Anna Gottard (2015) examined fertility decision-making processes in Italy using a lifecourse perspective. In particular, they presented all the possible relationships among the relevant variables and dimensions involved in the TPB model, including attitudes toward having a child, subjective norms, and perceived behavioral control, using graphical<sup>4</sup> models as an extension to path analysis. To provide a formal description and a clear picture of the changing fertility decision-making process, data from two waves (2003 and 2007) of the Italian GGS-FFS were used. This study generated important new insights both in line and in contrast with TPB research. Specifically, Mencarini et al. found that attitudes, subjective norms, and perceived behavioral control are determinants of fertility intentions, even after controlling for background factors (for example, number of children, age of woman, type of couple, and so on). In addition, in support of the TPB, they demonstrated that these three dimensions do not directly affect fertility behavior. However, their results also suggested that both fertility intentions and realization are affected by the background variables. This means that primary antecedents of fertility intentions (positive attitudes, negative attitudes, subjective norms, and perceived behavioral control) do not fully mediate background factors. The lack of independence among fertility intentions, fertility outcomes, and background factors underscores weaknesses in the TPB framework when applied in this area. This highlights the need for a generally accepted methodology that can be utilized in research on fertility decision-making processes.

### **5.2.3 Influence of Family Dynamics on Intergenerational Relationships**

Relationships between generations have always played a substantial role in supporting individuals, especially for those living in states with less generous policies. In Europe, many studies on the emotional and support relations between adult family generations show that children play a relevant role in the care and support of their elderly parents. However, over the last few decades in Europe and many other Western societies, the proportion of childless adults has

significantly increased, and the structure of families has changed. These trends may lead to a higher risk of loneliness in later life and an increasing demand for public health services and social care. The GGS data offer several advantages for researchers studying intergenerational support in Europe, including the high number of countries represented, the accessibility to contextual data, and the information on intergenerational support. A good example is provided by Luca Maria Pesando's study (2018): "Childlessness and upward intergenerational support: cross-national evidence from 11 European countries." Analysing GGS data from 11 European countries, the author identified differences between childless and non-childless adults in the provision of emotional, financial, and practical transfers to their elderly parents. Generally, childless people have been labeled as "selfish" and are often criticized by society, which frames parenthood in terms of positive personal and societal implications. However, this study provided clear evidence that those without children provide more support to their parents compared to adults with children. Additionally, in line with previous evidence from the Survey of Health and Retirement in Europe (SHARE), the research indicated that middle-aged adults must take more responsibility toward their elderly parents in countries with less generous welfare states. In this sense, childless people provide an important contribution to society that should be considered in shaping further public care policies.

A key dimension of intergenerational support is the emotional exchange between children and their parents. Nienke Moor and Aafke Komter (2012) investigated to what extent the emotional exchanges between children and their parents are related to the demographic trends (for example, decrease in fertility rates, increase in stepfamily formation, and so on) across Eastern Europe. To measure the emotional exchanges between children and parents, the authors made use of GGS data, which include information on whether respondents have any exchange about *anyone's personal experiences and feelings over the last 12 months*. Starting from Hobfoll's "conservation of resources theory" (1989), they hypothesized that family ties are important resources of affection that people want to attain and hold all across their lives.

In line with their hypothesis, the results suggested that people with fewer siblings are more involved in emotional exchange with their parents than adults with more siblings. This may be because individuals with fewer emotional exchange candidates are, in a way, compensating by intensifying their exchanges within already existing ties. Additionally, the authors did not find that multigenerational families act as a constraint on emotional exchanges. On the contrary, it emerged that these families are more engaged in emotional exchanges with their children. These results highlight the important role played by family members in emotional exchanges, which does not seem to have been affected by demographic trends in fertility, mortality, and divorce across Eastern European countries.

The demographic changes of the past decades have also had an impact on the well-being of older adults, especially in terms of their loneliness. Jenny Gierveld, Pearl A. Dykstra, and Niels Schenk (2012) explored the relation between the living arrangements of older adults and their loneliness by considering and differentiating intergenerational support types. In doing so, they analysed GGS data from France, Germany, Russia, Bulgaria, and Russia from respondents aged 40 and above. Literature has shown that older adults living alone are generally lonelier than older adults living with a partner. Gierveld et al. found intermediate levels of loneliness for older parents in co-resident households. In both Eastern European and Western European countries, older adults who are living alone are most lonely in general whereas older adults who are living with a partner are least lonely. Further, living with adult children seems to provide some protection against loneliness, even if this is not to the same degree as living

with the partner. Gierveld et al. also revealed an East-West well-being differential: in Russia, Bulgaria, and Georgia, older people tend to be lonelier than their peers in France and Germany. These findings demonstrate that living arrangements and intergenerational support are relevant to older adult loneliness and underscore the importance of policies and social programs to promote social participation and connectedness of older adults.

### 5.3 IMPROVING LIFECOURSE RESEARCH: GGP'S FUTURE DIRECTIONS

In all developed countries, lifecourses have become more complex with family trajectories being more differentiated than ever, and showing several cross-temporal and substantial cross-national differences. Detecting and interpreting these current, rapid changes presents a major challenge for society. To tackle this challenge will require the proper instruments to measure developments as they unfold and to monitor the implementation of existing and new social policies. In this last section of the chapter, we provide a brief overview of the forthcoming challenges in demographic research and show how the implementation of the new GGP survey<sup>5</sup> will provide a significant advantage in addressing these issues.

#### 5.3.1 Increasing Complexity of Families in Europe

In today's Europe, family lifecourses are becoming more diverse over time. Families are characterized by growing complexity both in terms of transitions over the lifecourse and organization of family life. The family structure has changed too: families are smaller than in previous generations, and both single-parent and dual-earner families are increasingly prevalent. Different forms of same-sex legal unions have also become more common as well. In Europe, among the different types of family constellations, some are more vulnerable than others. For example, single parents – especially mothers – with dependent children as well as large families are particularly at risk for poverty and/or social exclusion. Stepfamilies represent a vulnerable family structure too. Parents, stepparents, partners, and also children have to navigate complexities related to the composition of a new family: from having meals with children who are living in different family households to managing unexpected events (for example, a child's illness) (Ivanova, 2017).

Within this framework, it appears that the critical challenge during the next few years will be to investigate the quality of these families' relationships more deeply in order to reduce and/or prevent the reproduction of vulnerability (Carlson et al., 2017). However, there is a lack of data on which to base research on family relationships and family well-being. Specifically, information on family characteristics, patterns of parenting, and other relationships during the marriage are often limited and not accurate enough to reconstruct partnership and fertility histories. The enhancements introduced in the new GGP 2020 survey will allow researchers to better capture family complexity and include data on multiple partner fertility.

Starting from the marital and cohabitation histories of parents, information on children (biological, adopted, as well as step- and foster-children) will be gathered by linking children with specific partners. In this way, it will be possible for respondents to link their children with current and ex-partner(s) and to capture information on, for example, co-parenting among

divorced couples. This will offer more insights into complex family structures all over Europe, including same-sex and living-apart-together families.

However, the main challenge remains: how to address and improve individual and family well-being? Although there is no easy answer to this question, examining several dimensions of family well-being such as education, economic stability, intergenerational solidarity, and work–family reconciliation should be a first step to understanding the intertwined relationship between family complexity and well-being. The GGS data will provide information on full retrospective event histories, as well as the education and economic activities of individuals. Information on the satisfaction with the relationships with partner, co-resident and non-resident children (for example, contact frequency) will be collected. The new survey will also provide unique data that will be beneficial to understanding the work–life balance dynamics of contemporary families.

In addition to family well-being, future research will need to further investigate the changing ways in which people meet and enter relationships. The GGP 2020 survey will include a new range of questions to determine how the partners met each other for the first time. This new element will be very important for understanding the role of partnering in reproducing social inequalities. This represents a unique added value to the GGP since other cross-national family and fertility surveys do not include questions on this topic.

### **5.3.2 The Digital Revolution**

The digital revolution that has been taking place in recent years has, without doubt, changed the way in which academics access and use information. Major advances have already been made with techniques to combine online data such as web searches with traditional data sources. For example, researchers have shown how these new sources of data offer an alternative way to develop demographic models of behavior like fertility and migration (Billari et al., 2016; Ojala et al., 2017). In the context of Big Data, the GGS emerges as a key contributor to linking data-driven and theory-driven micro-founded simulation models with population-level data (Billari and Zagheni, 2017). The new centralized GGP survey will, for example, allow for the collection of geo-coded sampling points. While these specific location data will not be released, it will be possible to query these data. This will allow researchers to determine the extent to which variables measured within the GGP are geospatially distributed and associated with economic, social, and digital geographies.

Furthermore, the GGS infrastructure can be integrated within social media platforms and be completed online, which opens up further possibilities of integrating digital-trace data with traditional survey data. For example, it will be possible to use paradata about individuals' devices and behavior in responding to the survey to learn more about their digital background and skill set. It will also be possible to deploy the survey through innovative non-probability-based sampling methods on specific populations in order to supplement the probability-based samples upon which the GGP is based. This will allow the GGP to leverage the advantages of both approaches to data collection by producing high quality population estimates and tracking harder to reach and illusive populations such as those working in specific sectors or highly mobile individuals.

These advantages are made possible by an increasingly centralized and coordinated survey infrastructure through which the GGS will be administered in 2020. This infrastructure will allow for the deployment of high quality, standardized surveys across diverse and large areas

in a controlled and scientifically rigorous manner. The substantive implications of this will be the ability to understand how digital technologies are influencing the lifecourses and relationships that previous research using GGS data described. These data will offer unprecedented insights into how internet dating has changed the way people meet and start relationships, how information and communications technology (ICT) skills and awareness shape socio-economic opportunities and inequalities, and how the spread of information via digital sources influences and shapes people's attitudes and intentions to lifecourse transitions. The GGS will power the research that will elucidate the role that technology now plays in shaping our lives and provide new knowledge on our rapidly changing societies.

## 5.4 CONCLUSION

In contemporary societies, significant changes in the demographic makeup of the population and modern living arrangements have occurred together with other socio-economic changes. To better understand these population changes, social scientists, stakeholders, and policymakers need to adopt a cross-national perspective. The GGP stands out as a unique infrastructure that provides high quality cross-national comparative retrospective data on population and family changes. More than one thousand scientific publications have already been produced using GGS data.<sup>6</sup> In this chapter, we have presented some of the major contributions of GGP to lifecourse research and some of the new elements that will be introduced in the 2020 round of data collection. Thanks to the GGP, new methods to investigate family-life trajectories in early adulthood across Europe have been developed. In understanding individuals' fertility decision-making processes, GGS data have been largely applied within the Theory of Planned Behavior framework. Research has served to both improve and validate the robustness of the theoretical model and to highlight areas that can be strengthened. The inclusion of information on intergenerational support has made it possible to bring new insights into family dynamics and intergenerational relationships from a broad range of both Eastern and Western European countries. Further, the new GGS wave will elucidate the impact of the digital revolution by linking micro-level processes with macro-level population processes. Building on these contributions, the GGP's wealth of high quality information will provide researchers with the tools that they need to better capture the emerging and future challenges of our societies.

## NOTES

1. Currently, the GGP collection includes data from Australia, Austria, Belarus, Belgium, Bulgaria, Czech Republic, Estonia, France, Georgia, Germany, Hungary, Italy, Japan, Kazakhstan, Latvia, Lithuania, the Netherlands, Norway, Poland, Romania, Russian Federation, Sweden. <https://www.ggp-i.org/data/ggp-contextual-database/>.
2. De-standardization means that "life states, events and their sequences can become experiences which either characterize an increasingly smaller part of a population or occur at more dispersed ages and with more dispersed durations" (Brückner and Mayer, 2004, pp. 32–3).
3. Turbulence means that "the number of family-life events in the transition to adulthood is increasing," that "the order of states becomes less predictable," and also that "the variance of the durations spent in different states decreases" (Elzinga and Liefbroer, 2007, p. 246).
4. For an introduction to graphs and graphical models, see Edwards (2012).
5. [https://www.ggp-i.org/data/methodology/#GGP\\_2020](https://www.ggp-i.org/data/methodology/#GGP_2020).
6. <https://www.ggp-i.org/form/publications/>.

## REFERENCES

- Ajzen, I. (1985). From intentions to actions: a theory of planned behavior. In J. Kuhl and J. Beckmann (eds), *Action Control: From Cognition to Behavior* (pp. 11–39). Berlin and Heidelberg: Springer.
- Ajzen, I. (2006). Constructing a theory of planned behavior questionnaire. Brief description of the theory of planned behavior. Available at: <http://people.umass.edu/ajzen/pdf/tpb.measurement.pdf>. Accessed 1 February 2019.
- Ajzen, I. and Klobas, J. (2013). Fertility intentions. *Demographic Research*, **29**(8), 203–32. <https://doi.org/10.4054/DemRes.2013.29.8>
- Billari, F.C. and Liefbroer, A.C. (2010). Towards a new pattern of transition to adulthood? *Advances in Life Course Research*, **15**(2–3), 59–75. <https://doi.org/10.1016/j.alcr.2010.10.003>
- Billari, F.C. and Zagheni, E. (2017). *Big Data and Population Processes: A Revolution?* osf.io. <https://doi.org/10.17605/OSF.IO/F9VZP>
- Billari, F.C., Philipov, D., and Testa, M.R. (2009). Attitudes, norms and perceived behavioural control: explaining fertility intentions in Bulgaria. *European Journal of Population/Revue européenne de Démographie*, **25**(4), 439–65.
- Billari, F.C., D’Amuri, F., and Marcucci, J. (2016). Forecasting births using Google. In J. Domenech, A. Mas-Tur, N. Roig-Tierno, and M.R. Vincente (eds), *CARMA 2016 – 1st International Conference on Advanced Research Methods and Analytics*. Valencia: Editorial Universitat Politècnica de Valencia.
- Brückner, H. and Mayer, K.U. (2004). De-standardization of the life course: what it might mean? And if it means anything, whether it actually took place? *Advances in Life Course Research*, **9**(4), 27–53. [https://doi.org/10.1016/S1040-2608\(04\)09002-1](https://doi.org/10.1016/S1040-2608(04)09002-1)
- Carlson, L., Oláh, L.S., and Hobson, B. (2017). *Policy recommendations. Changing families and sustainable societies: policy contexts and diversity over the life course and across generations*. Stockholm. <https://doi.org/10.1787/9789264056237-5-en>
- Dommermuth, L., Klobas, J., and Lappegård, T. (2011). Now or later? The Theory of Planned Behavior and timing of fertility intentions. *Advances in Life Course Research*, **16**(1), 42–53. <https://doi.org/10.1016/j.alcr.2011.01.002>
- Dommermuth, L., Klobas, J., and Lappegård, T. (2015). Realization of fertility intentions by different time frames. *Advances in Life Course Research*, **24**, 34–46.
- Edwards, D. (2012). *Introduction to Graphical Modelling*. New York: Springer.
- Elzinga, C.H. and Liefbroer, A.C. (2007). De-standardization of family-life trajectories of young adults: a cross-national comparison using sequence analysis. *European Journal of Population*, **23**(3–4), 225–50. <https://doi.org/10.1007/s10680-007-9133-7>
- Gierveld, J., Dykstra, P.A., and Schenk, N. (2012). Living arrangements, intergenerational support types and older adult loneliness in Eastern and Western Europe. *Demographic Research*, **27**, 167–200. <https://doi.org/10.4054/DemRes.2012.27.7>
- Gustafsson, S. (2001). Optimal age at motherhood. Theoretical and empirical considerations on postponement of maternity in Europe. *Journal of Population Economics*, **14**(2), 225–47. <https://doi.org/10.1007/s001480000051>
- Hobfoll, S.E. (1989). A new attempt at conceptualizing stress. *American Psychologist*, **44**(3), 513–24.
- Ivanova, K. (2017). Division of childcare in two-biological-parent and step-parent households: importance of parental gender and type of partnership. *European Sociological Review*, **33**(5), 661–74. <https://doi.org/10.1093/esr/jcx065>
- Klobas, J. (2010). *Social Psychological Influences on Fertility Intentions: A Study of Eight Countries in Different Social, Economic and Policy Contexts*. Report to the European Commission within the project “Reproductive decision-making in a macro-micro perspective” (REPRO). Vienna and Milan: Vienna Institute for Demography and Carlo F. Dondena Centre for Research on Social Dynamics, Bocconi University.
- Klobas, J.E. and Ajzen, I. (2015). Making the decision to have a child. In D. Philipov, A.C. Liefbroer, and J.E. Klobas (eds), *Reproductive Decision-Making in a Macro-Micro Perspective*, (pp. 41–78) Dordrecht: Springer [https://doi.org/10.1007/978-94-017-9401-5\\_3](https://doi.org/10.1007/978-94-017-9401-5_3)
- Lesthaeghe, R. (2010). The unfolding story of the second demographic transition. *Population and Development Review*, **36**(2), 211–51. <https://doi.org/10.1161/01.HYP.28.5.872>

- Lesthaeghe, R. and Surkyn, J. (1988). Cultural dynamics and economic theories of fertility change. *Population and Development Review*, **14**(1), <https://doi.org/10.2307/1972499>
- Liefbroer, A.C. (2011). On the usefulness of the Theory of Planned Behaviour for fertility research. *Vienna Yearbook of Population Research*. Austrian Academy of Sciences Press. <https://doi.org/10.2307/41342803>
- Mencarini, L., Vignoli, D., and Gottard, A. (2015). Fertility intentions and outcomes. Implementing the Theory of Planned Behavior with graphical models. *Advances in Life Course Research*, **23**, 14–28. <https://doi.org/10.1016/j.alcr.2014.12.004>
- Mills, M., Blossfeld, H.-P., and Klijzing, E. (2006). *Becoming an Adult in Uncertain Times. Uncertainty and Youth in Society: The Losers in a Globalizing World*. London: Routledge, p. 438.
- Moor, N. and Komter, A. (2012). The impact of family structure and disruption on intergenerational emotional exchange in Eastern Europe. *European Journal of Ageing*, **9**(2), 155–67. <https://doi.org/10.1007/s10433-011-0207-3>
- Ojala, J., Zagheni, E., Billari, F., and Weber, I. (2017). Fertility and its meaning: evidence from search behavior. In *Proceedings of the Eleventh International AAAI Conference on Web and Social Media*. Montreal, Quebec, 15–18 May.
- Pesando, L.M. (2018). Childlessness and upward intergenerational support: cross-national evidence from 11 European countries. *Ageing & Society*, **39**(6), 1219–54. <https://doi.org/10.1017/S0144686X17001519>
- Régnier-Loilier, A. and Vignoli, D. (2011). Intentions de fécondité et obstacles à leur réalisation en France et en Italie. *Population*, **66**(2), 401–31. <https://doi.org/10.3917/popu.1102.0401>
- Schwanitz, K. (2017). The transition to adulthood and pathways out of the parental home: a cross-national analysis. *Advances in Life Course Research*, **32**, 21–34. <https://doi.org/10.1016/j.alcr.2017.03.001>
- Shanahan, M.J. (2000). Pathways to adulthood in changing societies: variability and mechanisms in life course perspective. *Annual Review of Sociology*, **26**, 667–92. <https://doi.org/10.1146/annurev.soc.26.1.667>
- Sobotka, T. and Toulemon, L. (2008). Overview Chapter 4: Changing family and partnership behaviour: common trends and persistent diversity across Europe. *Demographic Research*, **19**, 85–138. <https://doi.org/10.4054/DemRes.2008.19.6>
- Spéder, Z. and Kapitány, B. (2014). Failure to realize fertility intentions: a key aspect of the post-communist fertility transition. *Population Research and Policy Review*, **33**(3), 393–418. <https://doi.org/10.1007/s11113-013-9313-6>
- van de Kaa, D.J. (1987). Europe's second demographic transition. *Population Bulletin*, **42**(1), 1–59.

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## 6. Life history analyses with SHARE

*Axel Börsch-Supan*

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### 6.1 INTRODUCTION TO SHARE

The Survey of Health, Ageing and Retirement in Europe (SHARE) has been designed to monitor, document and analyse the complexities of individual and societal ageing processes with a special emphasis on the interplay among the triangular connections of health, social embeddedness and the socio-economic status of older individuals.

Since 2004, SHARE has collected bi-annual panel data on health, social networks and the socio-economic situation of Europeans aged 50 and over (Börsch-Supan and Jürges, 2005). In 2008–09, Wave 3, called SHARELIFE, added retrospective life histories of 25,000 SHARE respondents from 14 countries (Austria, Belgium, the Czech Republic, Denmark, France, Germany, Greece, Ireland, Italy, the Netherlands, Poland, Switzerland, Sweden, Spain) to the database and therefore opened up vast new research possibilities. SHARELIFE not only allows the analysis of how the respondents' earlier life shaped their situation today, it also helps explain the multiple links between different key areas in life as well as the influence of welfare state interventions upon them.

The sample was greatly increased in Wave 4 of SHARE by large refreshment samples in the original countries and the extension to 20 countries. After two additional panel waves, the most recent Wave 7 added eight more countries to cover all 26 continental European Union (EU) member states plus Switzerland and Israel, and administered a second round of life histories to all respondents who had entered the SHARE longitudinal sample after 2010 (about 49,500 individuals) and thus did not participate in the life history collection in Wave 3. The most recent scientific data release (7.0.0, April 2019) of SHARE includes about 380,000 interviews of 140,000 respondents aged 50 and over from 28 different countries, including about 75,000 life histories.

SHARE has spearheaded *ex ante* harmonization to obtain unbiased cross-national comparisons among its 28 participating countries. The case for cross-national research has been strongly made by the National Research Council (2001). The essential argument is that the variety of circumstances and policies is in general much larger across countries than within a single country such that policy makers and researchers can learn from what has happened and what has been tried elsewhere. This holds especially for the life circumstances in Europe since World War II which are likely to have influenced the health and cognitive decline of individuals now living at older ages (Kesternich et al., 2014).

While the benefits of comparative international research have become clear, the conduct of such research poses a number of challenges, such as the development of designs that can be readily adapted to different social and cultural settings, the harmonization of concepts and measures that provide a reasonably acceptable level of cross-national comparability, and the coordination of data collection and analysis across countries. Comparability is achieved by using survey methods that achieve comparable outcomes and by measuring the same concepts. SHARE has led this effort across its large number of participating countries. Moreover,

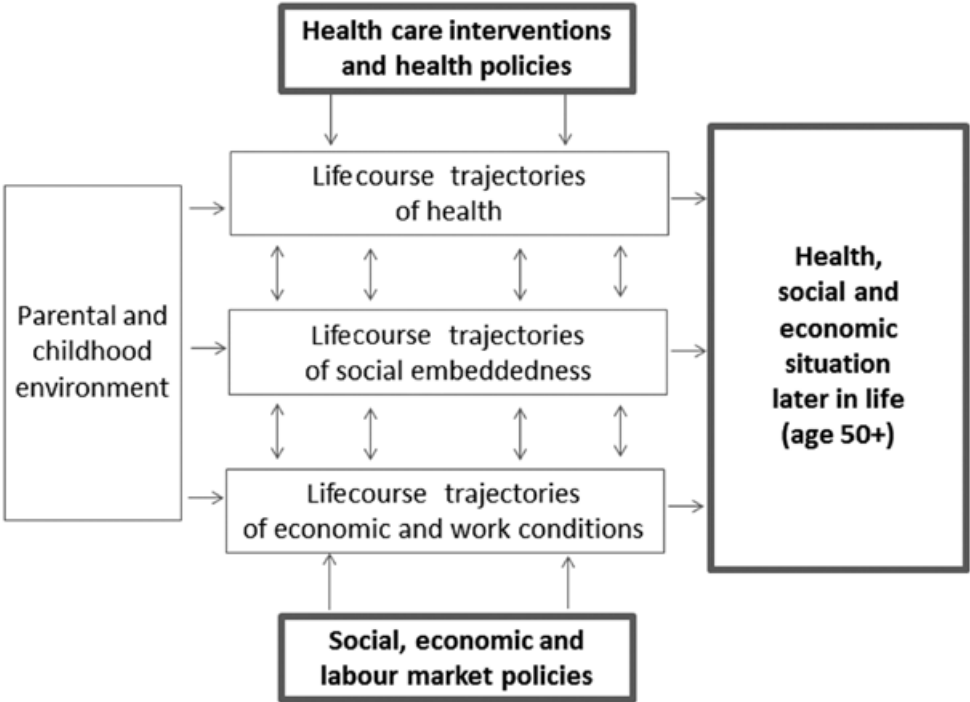


SHARE has spearheaded the inclusion of objective health measures in an international survey. It introduced the measurement of grip strength in the entire sample and is employing accelerometry in the current wave to overcome differential response styles when reporting physical activity. The collection of capillary blood in Wave 6 has been a key step to strengthen objective measures of health through markers for diabetes, cardiovascular diseases and cognitive decline.

## 6.2 LIFE HISTORIES IN SHARE

The two rounds of life history data substantially enrich the multidisciplinary SHARE panel data that were collected in Waves 1–2 and 4–6. The intellectual foundation for this effort is the insight that health, economic and social status in later life emerge from complex interactions over the entire lifecourse (Figure 6.1).

Departing from a person’s biological make-up, parental conditions and early education (indicated by the left box in Figure 6.1), the trajectories of health, economic status and social embeddedness are not determined in isolation but through mutual interactions over the entire lifecourse (as indicated by the many two-sided arrows between the three trajectories). Health,



Source: Author’s own illustration.

Figure 6.1 *Conceptual background*

for instance, influences economic status because healthier bodies are likely to support higher learning capacities at younger ages and higher workloads at older ages (for example, Deaton, 2002). In turn, income inequalities are also likely to cause inequalities in health because richer individuals can afford higher out-of-pocket health care costs and may have easier access to health care, especially in certain health care systems (for example, Smith, 2003). Health behaviours, lifestyle and environmental and occupational conditions add to these mutual interactions between health and economic status and simultaneously introduce interactions with the social environment in which individuals live. For example, ample evidence exists that embeddedness in a good family background is beneficial for the health of the family members (Fagundes et al., 2011). An important insight of recent research is that these interactions manifest their effects very early in life and then accumulate during positive and negative feedback cycles over the entire lifecourse (Heckman and Conti, 2013) before they determine later life health, economic and social outcomes at older ages (right box in Figure 6.1).

Many of these interactions can be modified by policies, such as education, workplace regulations, poverty prevention or health care (indicated by the boxes at the top and bottom of Figure 6.1). Some welfare state interventions directly affect health and employment. Early retirement, for example, is directly and often immediately influenced by the rules of the pension, disability and unemployment systems (Börsch-Supan and Coile, 2020). Health is directly affected by health care systems (Sirven and Or, 2011). In addition, long-run interventions of the welfare state exist, such as education, preventive health care and workplace regulations, which have complex indirect and interrelated effects over the lifecourse on both health and employment. Preventive health care, for instance, not only increases health but also makes meaningful occupation feasible at older ages (Jusot et al., 2012). High workplace standards not only improve employment at older ages by reducing early retirement but also tend to improve physical and mental health (Reinhardt et al., 2013).

The collection of highly structured retrospective life histories in all 28 participating countries was achieved by using electronic displays that show the timeline of events and risk factors in several dimensions, such as health, work, family and housing (for methodological details, see Schröder, 2011a). This display permits the respondent to see related events in one domain (family) with events in another domain (health), which significantly facilitates recall and improves the accuracy of the retrospective data.

The life history data cover the most important domains of the lifecourse:<sup>1</sup>

- *children* (such as birth of children, maternity leave decisions, pregnancies)
- *partners* (such as the number of partners, history for each serious relationship)
- *accommodations* (such as the place of birth, amenities during childhood, number of moves)
- *employment* (such as the number of jobs, job quality, history of work disability) and
- *health* (such as health shocks, current health, health care usage)

as well as information on

- *childhood conditions* (such as childhood health, school performance, accommodation features)
- *finances* (such as insurance, housing, stock market participation)
- *general life events* (such as persecution, periods of hunger, periods of happiness).

Such retrospective data collection has proven to be a very successful way to assess developments across a very long time span, not only in terms of data collection costs (financial and time) but also in terms of quality (for an evaluation of SHARELIFE, see Mazzonna and Havari, 2011). Although we are aware that the hindsight perspective may create reporting biases, Smith (2003) shows the power and usefulness of retrospective data in detecting associations between health and socio-economic variables. More specifically, Korbmacher (2014) demonstrated the accuracy of retrospectively collected employment histories in a large-scale validation study comparing SHARE with linked administrative data. Lifecourse data on the timing of the major social, health and economic events over long segments of the life cycle have been shown to be extremely helpful in identifying the causal mechanisms in the dynamic and cumulative relationship among health, lifestyles and socio-economic resources. Such data capture biological and socio-economic risk factors in early and mid-life, including health shocks, working conditions and behaviour during childhood and adulthood. Thus, these data allow us to not only quantify the long-lasting effects of early life events (including interventions by health and social policies) on later life health status but also study potential behavioural channels causing associations between risk factors and health outcomes.

This chapter summarizes SHARE-based research that has been published in the two ‘First Results Books’ dedicated to these interactions over the life cycle (Börsch-Supan et al., 2011; Börsch-Supan et al., 2019).<sup>2</sup> The 25 studies covered are showcases of the interdisciplinary and cross-nationally comparative research results obtained from SHARE data. Many of them explicitly study how the welfare state interventions shown in Figure 6.1 moderate the links between early life events and later life outcomes. They are structured along six domains: childhood circumstances and later life well-being; health and health care; labour market and occupation; income and wealth; work and retirement; and the long shadows of European history.

### 6.3 CHILDHOOD CIRCUMSTANCES AND LATER LIFE WELL-BEING

*Noam Damri and Howard Litwin* (2019) show that the familial environment that older Europeans experienced during childhood is associated with their well-being in later life. They focus on the broad quality of the parent–child relationship and more specifically on physical abuse by either parent. Their key finding is that people who had good relationships with their parents show higher well-being scores at older ages, whereas those who grew up in an abusive familial environment show lower quality of life scores in old age. This result can partly be attributed to a form of recall or justification bias whereby unhappy people tend to blame others for the low quality of their lives, whereas happy people put to rest their memories of past negative events. Even if this were the case, the implication of these findings for policy and practice are that the childhood interpersonal environment of older people needs to be addressed when dealing with ways to maintain or promote well-being in late life.

*Raluca E. Buia, Matija Kovacic and Cristina E. Orso* (2019) are also concerned that adverse childhood experiences may exert a negative influence on emotional well-being later in life. They focus on mental health problems and investigate the extent to which exposure to adverse early life experiences favours the onset of emotional disorders. They find that the intensity of the effects of adverse childhood experiences on mental well-being displays important differences between the pre- and post-war cohorts. A poor relationship with parents has a stronger

and more significant impact on the post-war cohort, whereas having experienced physical harm from parents is not significantly different from having experienced zero harm for the pre-war cohort. However, physical abuse from persons outside the family has a more important effect for the older respondents. Most adverse childhood experiences have a stronger and more significant impact on women.

## 6.4 HEALTH AND HEALTH CARE

The question of how childhood conditions affect later life applies not only to education or social class, but also – and maybe even more so – to health. In the current light of increasing health care costs across the world, this may be especially important. In their paper, *Karine Moschetti, Karine Lamiraud, Owen O'Donnell and Alberto Holly* (2011) show that poor health, parental smoking and limited access to health care during childhood are associated with greater utilization of, and payments for, health care in middle and old age. Interestingly, the association operates mainly through reduced health in adulthood, and less through socio-economic status. The results are suggestive for policy: improving childhood health in populations now will lead to future cohorts costing less in old age than do their current counterparts.

*Hendrik Jürges and Luca Stella* (2019) look into social inequality in access to health care. They examine how access to health care varies across European countries as well as over time by analysing three relevant dimensions: unmet need; catastrophic health care expenses; and satisfaction with health insurance coverage. Jürges and Stella find that a remarkable cross-national heterogeneity exists in terms of health care access, with Greece, Italy and Poland being the countries with the most serious deficiencies in 2015–17. Over the entire life cycle, however, unmet health care needs are most prevalent among Eastern European countries, although in those countries educational inequalities in health care access are not as high as in Southern Europe.

Disability insurance is an important part of the European welfare state. It insures individuals who are unable to work due to physical or mental health problems at relatively early stages in life against falling into poverty. Striking, however, is the huge variation of individuals receiving disability insurance across Europe. *Axel Börsch-Supan and Henning Roth* (2011) exploit the health histories in the SHARELIFE data to understand whether these international differences are due to bad health in childhood and/or long-term health problems during adult life. While lifecourse health problems do indeed increase the odds of receiving a disability pension within each country, they do not explain the large international variation. Börsch-Supan and Roth explain this variation with differences in the generosity of the national disability insurance programmes.

*Michele Belloni, Danilo Cavapozzi, Chiara Dal Bianco, Yao Pan and Serena Trucchi* (2019) investigate how health dynamics late in life vary with early life conditions. They document that better early life conditions are associated with better health outcomes and find that education as well as current income and wealth are important mediating factors of this relationship. They first establish that socio-economic status in childhood is positively correlated with health in later life. This association holds for both physical and mental health and is stronger for females than for males. In most cases, this association remains stable over the entire age range considered (50–80 years). They also find evidence that this effect is mostly indirect, that is, mediated by socio-economic status in adulthood. This evidence suggests that

an individual who grew up in adverse conditions is penalized in terms of education, income and wealth over the life cycle, leading to worse health in old age. However, a small direct effect remains, suggesting that childhood circumstances partly act as an indelible imprint on individuals' health.

Health as an adult is always related to health care and accessibility of health care throughout one's life. Specifically, dental care is an important aspect of our daily life, which has changed considerably over the last 50 years. *Brigitte Santos-Eggimann, Sarah Cornaz and Jacques Spagnoli* (2011) take into account the density of dentists when investigating how much dental care older Europeans have received throughout their lives. They report a clear cohort effect – older Europeans suffered more from under coverage of dental care, although rates are decreasing over the life span. The direct policy implications seem to already be in place – a higher density of dentists will lead to better use of care and improve well-being in later life.

*Nicolas Sirven and Zeynep Or* (2011) take a more general view on the problem by looking at a wide array of preventive health care measures, for example, blood pressure tests, vision tests or mammograms. They report a shift towards more regular care among all countries; however, differences remain between countries and social classes: the higher the education, for example, the higher the propensity to engage in preventive care. Relating the tests to density of doctors, they obtain a similar result as the previous paper: the more, the better. Given the dispersion of medical expertise in Europe, these results suggest that there is significant room for public health policies to reduce disparities in regular use of health services within and across European countries.

In most European countries, long-term illness is associated with earlier exit from the labour market. This is well known – but can higher public health investments ameliorate this association? This is the key question posed by *Mauricio Avendano and Johan Mackenbach* (2011). Their results do not generally suggest a strong correlation of the level of public health investments with the prevalence of long-term illness. However, they find that investments in curative health care are strongly negatively associated with the prevalence of long-term illness. They also find that larger investments in unemployment benefit programmes are associated with a larger impact of illness on labour force participation, suggesting that higher unemployment benefits may potentially work as an incentive towards earlier exit from the labour market due to illness.

## 6.5 LABOUR MARKET AND OCCUPATION

*Yuri Pettinicchi and Axel Börsch-Supan* (2019) analyse the late-in-life consequences of being a self-employed worker. Self-employment is typically associated with precarious working conditions given the reduced welfare coverage and the prevalence of more volatile earnings. The evidence from SHARELIFE shows that self-employed workers are in fact a heterogeneous group: some workers make an explicit choice to gain control over their working conditions, whereas for others self-employment is a transitory stage leading to (or coming from) dependent employment. In all cases, public pension provisions are limited and self-employed workers are more likely to be at risk of poverty in old age. However, the first group offsets the higher costs involved with the job transitions with higher earnings growth, which may in turn provide higher private wealth in old age. The second group, which end up in self-employment

because of exogenous factors, is not in a condition to accumulate sufficient financial assets to protect their retirement.

*Agnieszka Chłoń-Domińczak, Iga Magda and Paweł Strzelecki* (2019) observe that women have shorter and more interrupted careers compared with men and that the so-called gender gap differs among countries. The authors maintain that the patterns of female lifecourse working careers depend on the institutional organization of the labour market, including the regulation of part-time work. They distinguish women who have had full labour market careers and women with interrupted careers and relate these patterns to current outcomes at older age, including health, income and life satisfaction. Pronounced differences emerge in labour market participation within and between countries: in Southern Europe, women normally withdrew from the labour market for good, whereas in Scandinavian and some continental countries (that is, Germany, France, Switzerland), women were more likely to continue part-time labour market careers. Predominant patterns of interrupted careers affect the current health assessment, life satisfaction and financial situation: women who worked either full or part time currently have a better overall financial situation. The level of life satisfaction is also higher among those women who were economically active during their working lives.

*Marco Bertoni, Andrea Bonfatti, Martina Celidoni, Angela Crema and Chiara Dal Bianco* (2019) investigate gender differences in occupation and earnings once one has considered other determinants, such as education or job experience. The authors find that the end-of-working-life wage gap is approximately 28 per cent, and about one-fifth can be explained by standard personal and job characteristics. Accounting for the endogeneity of job selection raises the explained part of the total wage gap to about 50 per cent, whereas adding parental education, health shocks and non-cognitive skills increases the explained part of the gap only marginally. The authors conclude that the wage penalty for women is mostly explained by a within-occupation differential.

*Daniilo Cavapozzi, Simona Fiore and Giacomo Pasini* (2019) analyse the association between family dissolution and labour supply decisions during the lifecourse. Family dissolution episodes, that is, a household split or divorce, can force individuals – especially women – to enter the labour market to make ends meet and may induce others to leave the labour market because of stress and related psychosocial effects. The authors find that employment choices are affected by the occurrence of family dissolution episodes and, as expected, the effect is stronger for women. The magnitude of this effect increases with the presence of children.

## 6.6 INCOME AND WEALTH

Poverty is one of the most dreaded events in an individual's life, and many policies have been derived to reduce it. Linking with Chapter 19 in this volume, poverty at older ages is especially problematic as it relates to poorer health, fewer social contacts and bad economic conditions and its occurrence late in life almost completely deprives individuals of undoing it. *Platon Tinios, Antigone Lyberaki and Thomas Georgiadis* (2011) look at how childhood deprivation translates into later life poverty. While they conclude that there are persisting effects, that is, those deprived early on continue to have a higher risk of poverty in old age, they also find that these effects are soothed by welfare state interventions such as spending on social protection.

The transition across different socio-economic groups is one of the concerns of policy makers. Do children inherit not only their parents' genes, but also their social status? *Daniilo*

*Cavapozzi, Christelle Garrouste and Omar Paccagnella* (2011) explore this question by relating parental finance and education background with educational attainment and income inequality later in life. They conclude that education policies fostering access to education and increasing the number of years spent in full-time education might qualify as a possible strategy to reduce income dispersions.

*Dimitris Christelis, Loretta Dobrescu and Alberto Motta* (2011) investigate how childhood health and cognition relate to the individual's portfolio choice later in life. Not only is bad childhood health an indicator for fewer investments, the same holds for lack of an effective source of health care during childhood. In addition, performance at school relates positively to the amount of investments, which leads the authors to stress the necessity of welfare policies to intervene early in life to increase access to health care and improve educational attainment.

Wealth in later life is typically negatively influenced by family events such as divorce. This effect depends on divorce laws which differ across Europe. *Caroline Dewilde, Karel Van den Bosch and Aaron Van den Heede* (2011) investigate how marital separation influences later life wealth, a question particularly important as divorce rates have increased all over Europe in recent years. They find a negative effect over all European countries for divorced women who have remained single. Although women have become more independent over the years, elderly women are especially vulnerable to separation from the husband they are economically dependent on.

## 6.7 WORK AND RETIREMENT

*Martina Brandt and Karsten Hank* (2011) investigate the so-called 'scarring effects' of early unemployment on later life employment opportunities. Welfare state interventions, one would hope, should minimize these effects in order to prevent downward spirals. Their analysis provides clear evidence for scarring effects even among older workers. Differences in individuals' unemployment risks across welfare states suggest that labour market institutions and educational systems have the potential for significant (positive and negative) interventions affecting people's employment opportunities across the entire lifecourse.

Scarring effects are also the focus of *Mathis Schröder* (2011b). He investigates the association between unemployment and long-term effects on health, using information on business closures to show a causal relationship between unemployment and health. He finds negative health effects of unemployment even up to 40 years after the business closure. In an additional analysis, he explores whether the welfare state can mitigate some of the effects of unemployment on health, and finds that for women especially, there are strong positive effects of unemployment benefits on long-term health.

One aim of maternity leave provisions is to make sure that maternity does not precipitate a permanent exit from the labour force. Does welfare state intervention achieve this aim? *Agar Brugiavini, Giacomo Pasini and Elisabetta Trevisan* (2011) compare the labour market participation of women in countries with different maternity leave provisions. They then evaluate the resulting retirement income replacement rate, which can be interpreted as a measure of lifetime earnings. The authors' results are sobering insofar as countries with generous maternity leave provisions have higher exit rates and lower retirement income replacement rates.

The implications of childbearing history for individuals' labour force participation in later life is the focus of the study by *Karsten Hank and Julie Korbmacher* (2011). They investigate

how men's and women's entry into retirement is associated with parental status and whether this varies across welfare regimes (with different employment opportunities and pension entitlements for parents). They find that mothers are more likely than childless women to exit the labour force early, whereas fathers tend to retire later than other men. The association between childbearing and earlier retirement appears to be particularly strong among women living under a social-democratic or post-communist welfare state regime, that is, in countries exhibiting relatively high levels of female labour force participation.

Older people may contribute to society in productive ways after retirement, for example, as volunteers. *Morten Wahrendorf and Johannes Siegrist* (2011) show that elders' propensity to serve as a volunteer today is negatively associated with poor mid-life working conditions, stressing the need to take a lifecourse perspective. Moreover, the authors find the extent of volunteering in early old age to be influenced positively by policy measures aimed to improve the quality of work and employment, the extent of lifelong learning and the amount of resources spent on rehabilitation services.

## 6.8 THE LONG SHADOWS OF HISTORY

The SHARE generation in Europe has experienced many major historical events – among them World War II and the rise and fall of the communist regimes. However, the population affected by these events is rapidly shrinking, as age takes its toll. In this sense, *Radim Bohacek and Michal Myck* (2011) provide us with a unique analysis: they look at the consequences of persecution on people's life, especially on their health and employment careers. They find – even now – strong effects for those who have suffered from persecution and come to the conclusion that while thankfully, in today's Europe, persecution is absent, more effort is needed to protect those in other countries suffering from it.

The health of the population in post-socialist Central and Eastern Europe (CEE) countries lags considerably behind the EU average. For example, life expectancy at birth and at age 65 is approximately 3–6 years lower than the EU average. *Anikó Biró and Réka Branyiczki* (2019) focus on health status and its evolution before and after the transition from a socialist to a capitalist system, conditional on having survived at least 20 years after the transition and based on individual life history data. This transition implied a dramatic restructuring of the CEE economies and their social security systems. Such major events may have affected not only the health care system but also the health status of the population in CEE countries. The authors attempt to disentangle these two effects: the 'shock effect' through the transition and the effect of changing health care systems. The authors document that health disparities existed even before the transition. They also showed that the era of post-socialist transition was more often associated with the start of stressful periods and financial difficulties in post-socialist CEE countries than in the West. Finally, they found evidence that stressful periods, financial difficulties and job loss around the period of transition are all associated with worse health at older ages, even after netting out the effect of childhood health and demographic factors. Overall, the results by Biró and Branyiczki suggest that the post-socialist transition itself increased the health disadvantage of the post-socialist CEE countries.

Numerous adult outcomes can be influenced by childhood health and cognition, as suggested in *Loretti I. Dobrescu and Alin Marius Andries* (2019). They focus on the prevalence of adverse health and financial circumstances among older Romanians. The authors investigate



how these relations are affected by the generosity (or stinginess) of the welfare state. Thus, their analysis is particularly relevant in light of the current social and political debate in Romania that has seen the public affected by extreme polarization around two main camps defined by their support for or against the welfare state. Dobrescu and Andries find that childhood health and cognition have long-lasting effects on the prevalence of dire health and financial circumstances later in life. Such bad health effects appear to be mitigated across various dimensions by the generosity of the welfare state, mostly related to extreme but reversible circumstances (serious – but not long-term or chronic – illnesses, financial hardship or hunger). Superior cognitive skills are associated with better chances of making ends meet or avoiding hunger, whereas having experienced financial hardship seems unavoidable given the last 30–40 years of turmoil.

## 6.9 CONCLUSIONS

The SHARE life histories have provided a fascinating account of life in Europe over the past century. While much of this century was characterized by wars and oppression, it also generated dramatic changes in the extension and influence of the welfare state on individuals' lives. The European-style welfare state has, arguably, improved our lives tremendously, and this is reflected in our life histories. First and foremost, health has become much better and life expectancy has increased to an extent unprecedented in history. Education has vastly improved. Employment patterns have changed with an enormous increase in female labour force participation, and generally later entries into the labour force combined with earlier exits.

The main challenge for the analyses based on SHARE life histories was therefore to isolate specific effects generated by the welfare state in an environment in which many life circumstances have changed dramatically. Many of these analyses were indeed able to identify significant and quantitatively important effects of welfare state interventions on later life outcomes. Some of these findings will be controversial. Hopefully, this review will inspire readers to do their own analyses using the SHARE data, especially the newly collected life histories for 28 countries in Wave 7 of SHARE.

## NOTES

1. We are grateful to the investigators of the English Longitudinal Study of Ageing (ELSA) who provided us with a template of their life history interviews (see Ward et al., 2009). The US Health and Retirement study (HRS, <http://hrsonline.isr.umich.edu>) contains childhood information comparable to SHARELIFE.
2. This chapter draws from the abstracts in these volumes.

## REFERENCES

- Avendano, Mauricio and Johan Mackenbach (2011), 'Life-course health and labour market exit in thirteen European countries: results from SHARELIFE', in Axel Börsch-Supan, Martina Brandt, Karsten Hank, and Mathis Schröder (eds), *The Individual and the Welfare State. Life Histories in Europe*, Heidelberg: Springer, pp. 203–13.

- Belloni, Michele, Danilo Cavapozzi, Chiara Dal Bianco, Yao Pan, and Serena Trucchi (2019), 'How do early-life conditions shape health age profiles late in life?', in Axel Börsch-Supan, Johanna Bristle, Karen Andersen-Ranberg, Agar Brugiavini, Florence Jusot, Howard Litwin, and Guglielmo Weber (eds), *Health and Socio-economic Status over the Life Course: First Results from SHARE Waves 6 and 7*, Berlin/Boston: De Gruyter, pp. 91–8.
- Bertoni, Marco, Andrea Bonfatti, Martina Celidoni, Angela Crema, and Chiara Dal Bianco (2019), 'End-of-working-life gender wage gap: the role of health shocks, parental education and personality traits', in Axel Börsch-Supan, Johanna Bristle, Karen Andersen-Ranberg, Agar Brugiavini, Florence Jusot, Howard Litwin, and Guglielmo Weber (eds), *Health and Socio-economic Status over the Life Course: First Results from SHARE Waves 6 and 7*, Berlin/Boston: De Gruyter, pp. 141–8.
- Biró, Anikó and Réka Branyiczki (2019), 'Health gap in post-socialist central and eastern Europe: a life-course perspective', in Axel Börsch-Supan, Johanna Bristle, Karen Andersen-Ranberg, Agar Brugiavini, Florence Jusot, Howard Litwin, and Guglielmo Weber (eds), *Health and Socio-economic Status over the Life Course: First Results from SHARE Waves 6 and 7*, Berlin/Boston: De Gruyter, pp. 167–78.
- Bohacek, Radim and Michal Myck (2011), 'Persecution in Central Europe and its consequences on the lives of SHARE respondents', in Axel Börsch-Supan, Martina Brandt, Karsten Hank, and Mathis Schröder (eds), *The Individual and the Welfare State. Life Histories in Europe*, Heidelberg: Springer, pp. 271–85.
- Börsch-Supan, Axel and Courtney Coile (2020), 'Reforms and retirement incentives: introduction and summary', in Axel Börsch-Supan and Courtney Coile (eds), *Social Security Programs and Retirement around the World: Reforms and Retirement Incentives*, Chicago, IL: University of Chicago Press (in press).
- Börsch-Supan, A. and H. Jürges (eds) (2005), *The Survey of Health, Ageing and Retirement in Europe – Methodology*, Mannheim Research Institute for the Economics of Aging (MEA).
- Börsch-Supan, Axel and Henning Roth (2011), 'Work disability and health over the life course', in Axel Börsch-Supan, Martina Brandt, Karsten Hank, and Mathis Schröder (eds), *The Individual and the Welfare State. Life Histories in Europe*, Heidelberg: Springer, pp. 215–24.
- Börsch-Supan, Axel, Martina Brandt, Karsten Hank, and Mathis Schröder (eds) (2011), *The Individual and the Welfare State. Life Histories in Europe*, Heidelberg: Springer.
- Börsch-Supan, Axel, Johanna Bristle, Karen Andersen-Ranberg et al. (2019), *Health and Socio-economic Status over the Life Course: First Results from SHARE Waves 6 and 7*. Berlin/Boston: De Gruyter.
- Brandt, Martina and Karsten Hank (2011), 'Early and later life experiences of unemployment under different welfare regimes', in Axel Börsch-Supan, Martina Brandt, Karsten Hank, and Mathis Schröder (eds), *The Individual and the Welfare State. Life Histories in Europe*, Heidelberg: Springer, pp. 117–24.
- Brugiavini, Agar, Giacomo Pasini, and Elisabetta Trevisan (2011), 'Maternity and labour market outcome: short and long term effects', in Axel Börsch-Supan, Martina Brandt, Karsten Hank, and Mathis Schröder (eds), *The Individual and the Welfare State. Life Histories in Europe*, Heidelberg: Springer, pp. 151–9.
- Buia, Raluca E., Matija Kovacic, and Cristina E. Orso (2019), 'Effects of adverse childhood experiences on mental well-being later in life', in Axel Börsch-Supan, Johanna Bristle, Karen Andersen-Ranberg, Agar Brugiavini, Florence Jusot, Howard Litwin, and Guglielmo Weber (eds), *Health and Socio-economic Status over the Life Course: First Results from SHARE Waves 6 and 7*, Berlin/Boston: De Gruyter, pp. 67–74.
- Cavapozzi, Danilo, Christelle Garrouste, and Omar Paccagnella (2011), 'Childhood, schooling and income inequality', in Axel Börsch-Supan, Martina Brandt, Karsten Hank, and Mathis Schröder (eds), *The Individual and the Welfare State. Life Histories in Europe*, Heidelberg: Springer, pp. 31–43.
- Cavapozzi, Danilo, Simona Fiore, and Giacomo Pasini (2019), 'Family dissolution and labour supply decisions over the life cycle', in Axel Börsch-Supan, Johanna Bristle, Karen Andersen-Ranberg, Agar Brugiavini, Florence Jusot, Howard Litwin, and Guglielmo Weber (eds), *Health and Socio-economic Status over the Life Course: First Results from SHARE Waves 6 and 7*, Berlin/Boston: De Gruyter, pp. 67–74.
- Chłoń-Domińczak, Agnieszka, Iga Magda, and Paweł Strzelecki (2019), 'Patterns of labour market participation and their impact on the well-being of older women', in Axel Börsch-Supan, Johanna Bristle,

- Karen Andersen-Ranberg, Agar Brugiavini, Florence Jusot, Howard Litwin, and Guglielmo Weber (eds), *Health and Socio-economic Status over the Life Course: First Results from SHARE Waves 6 and 7*, Berlin/Boston: De Gruyter, pp. 129–40.
- Christelis, Dimitris, Loretta Dobrescu, and Alberto Motta (2011), ‘The impact of childhood health and cognition on portfolio choice’, in Axel Börsch-Supan, Martina Brandt, Karsten Hank, and Mathis Schröder (eds), *The Individual and the Welfare State. Life Histories in Europe*, Heidelberg: Springer, pp. 59–66.
- Damri, Noam and Howard Litwin (2019), ‘Relationships with parents in childhood and well-being in later life’, in Axel Börsch-Supan, Johanna Bristle, Karen Andersen-Ranberg, Agar Brugiavini, Florence Jusot, Howard Litwin, and Guglielmo Weber (eds), *Health and Socio-economic Status over the Life Course: First Results from SHARE Waves 6 and 7*, Berlin/Boston: De Gruyter, pp. 57–66.
- Deaton, A. (2002), ‘Policy implications of the gradient of health and wealth’, *Health Affairs*, **21** (2): 13–30.
- Dewilde, Caroline, Karel Van den Bosch, and Aaron Van den Heede (2011), ‘Separation: consequences for wealth in later life’, in Axel Börsch-Supan, Martina Brandt, Karsten Hank, and Mathis Schröder (eds), *The Individual and the Welfare State. Life Histories in Europe*, Heidelberg: Springer, pp. 103–14.
- Dobrescu, Loretta I. and Alin Marius Andries (2019), ‘The link to the past and the post-communist welfare state’, in Axel Börsch-Supan, Johanna Bristle, Karen Andersen-Ranberg, Agar Brugiavini, Florence Jusot, Howard Litwin, and Guglielmo Weber (eds), *Health and Socio-economic Status over the Life Course: First Results from SHARE Waves 6 and 7*, Berlin/Boston: De Gruyter, pp. 187–96.
- Fagundes, Christopher P., Jeanette M. Bennett, Heather M. Derry, and Janice K. Kiecolt-Glaser (2011), ‘Relationships and inflammation across the lifespan: social developmental pathways to disease’, *Social and Personality Psychology Compass*, **5** (11): 891–903.
- Hank, Karsten and Julie Korbmacher (2011), ‘Reproductive history and retirement: gender differences and variations across welfare states’, in Axel Börsch-Supan, Martina Brandt, Karsten Hank, and Mathis Schröder (eds), *The Individual and the Welfare State. Life Histories in Europe*, Heidelberg: Springer, pp. 161–7.
- Heckman, James J. and Gabriella Conti (2013), ‘The developmental approach to child and adult health’, *Pediatrics*, **131** (2): 133–41.
- Jürges, Hendrik and Luca Stella (2019), ‘The social dynamics of unmet need, catastrophic health care expenses and satisfaction with health insurance coverage’, in Axel Börsch-Supan, Johanna Bristle, Karen Andersen-Ranberg, Agar Brugiavini, Florence Jusot, Howard Litwin, and Guglielmo Weber (eds), *Health and Socio-economic Status over the Life Course: First Results from SHARE Waves 6 and 7*, Berlin/Boston: De Gruyter, pp. 269–78.
- Jusot, Florence, Zeynep Or, and Nicolas Sirven (2012), ‘Variations in preventive care utilisation in Europe’, *European Journal of Ageing*, **9** (1): 15–25.
- Kesternich, I., B. Siflinger, J. Smith, and J. Winter (2014), ‘The effects of World War II on economic and health outcomes across Europe’, *Review of Economics and Statistics*, **96** (1): 103–18.
- Korbmacher, Julie M. (2014). ‘Interviewer effects on the willingness to provide blood samples in SHARE’, chapter in *New Challenges for Interviewers when Innovating Social Surveys: Linking Survey and Objective Data*, PhD Dissertation, Ludwig Maximilian University, Munich.
- Mazzonna, F. and E. Havari (2011), ‘Can we trust older people’s statements on their childhood circumstances? Evidence from SHARELIFE’, SHARE Working Paper Series 05-2011.
- Moschetti, Karine, Karine Lamiraud, Owen O’Donnell, and Alberto Holly (2011), ‘Does poor childhood health explain increased health care utilisation and payments in middle and old age?’, in Axel Börsch-Supan, Martina Brandt, Karsten Hank, and Mathis Schröder (eds), *The Individual and the Welfare State. Life Histories in Europe*, Heidelberg: Springer, pp. 255–67.
- National Research Council (2001), *Preparing for an Aging World: The Case for Cross-National Research*, Panel on a Research Agenda and New Data for an Aging World, Committee on Population and Committee on National Statistics, Division of Behavioral and Social Sciences and Education, Washington, DC: National Academy Press.
- Pettinicchi, Yuri and Axel Börsch-Supan (2019), ‘The economic situation of formerly self-employed workers’, in Axel Börsch-Supan, Johanna Bristle, Karen Andersen-Ranberg, Agar Brugiavini,

- Florence Jusot, Howard Litwin, and Guglielmo Weber (eds), *Health and Socio-economic Status over the Life Course: First Results from SHARE Waves 6 and 7*, Berlin/Boston: De Gruyter, pp. 119–28.
- Reinhardt, Jan D., Morten Wahrendorf, and Johannes Siegrist (2013), ‘Socioeconomic position, psychosocial work environment and disability in an ageing workforce: a longitudinal analysis of SHARE data from 11 European countries’, *Occupational and Environmental Medicine*, **70** (3): 156–63.
- Santos-Eggimann, Brigitte, Sarah Cornaz, and Jacques Spagnoli (2011), ‘Lifetime history of prevention in European countries: the case of dental check-ups’, in Axel Börsch-Supan, Martina Brandt, Karsten Hank, and Mathis Schröder (eds), *The Individual and the Welfare State. Life Histories in Europe*, Heidelberg: Springer, pp. 233–40.
- Schröder, Mathis (ed.) (2011a), *SHARELIFE Methodology*, Mannheim Research Institute for the Economics of Aging (MEA).
- Schröder, Mathis (2011b), ‘Scar or blemish? Investigating the long-term impact of involuntary job loss on health’, in Axel Börsch-Supan, Martina Brandt, Karsten Hank, and Mathis Schröder (eds), *The Individual and the Welfare State. Life Histories in Europe*, Heidelberg: Springer, pp. 191–201.
- Sirven, Nicolas and Zeynep Or (2011), ‘Disparities in regular health care utilisation in Europe’, in Axel Börsch-Supan, Martina Brandt, Karsten Hank, and Mathis Schröder (eds), *The Individual and the Welfare State. Life Histories in Europe*, Heidelberg: Springer, pp. 241–54.
- Smith, James P. (2003), ‘Unraveling the SES-health connection’, Working Paper, 10063, RAND.
- Tinios, Platon, Antigone Lyberaki and Thomas Georgiadis (2011), ‘Explaining persistent poverty in SHARE: does the past play a role?’, in Axel Börsch-Supan, Martina Brandt, Karsten Hank, and Mathis Schröder (eds), *The Individual and the Welfare State. Life Histories in Europe*, Heidelberg: Springer, pp. 19–30.
- Wahrendorf, Morten and Johannes Siegrist (2011), ‘Working conditions in mid-life and participation in voluntary work after labour market exit’, in Axel Börsch-Supan, Martina Brandt, Karsten Hank, and Mathis Schröder (eds), *The Individual and the Welfare State. Life Histories in Europe*, Heidelberg: Springer, pp. 179–88.
- Ward, K., J. Medina, M. Mo, and K. Cox (2009), *ELSA Wave Three: Life History Interview. A User Guide to the Data. Version 1*, UK Data Archive Study Number 5050.

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## 7. The contribution of the 1958 and 1970 British birth cohort studies to lifecourse research on family transitions

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### 7.1 INTRODUCTION

From the outset, the impact of parental characteristics, family structures and parental transitions on children's outcomes have been an important concern of both the 1958 and 1970 British birth cohort studies. Even though a longitudinal design was not fully anticipated at the inception of either study, and certainly not a longitudinal design that continued to follow cohort members beyond childhood, both cohort studies were created to improve our understanding of how the social and biological characteristics of mothers, and families more broadly, patterned risks of neonatal morbidity and mortality. In the case of the 1970 cohort, the focus was also on understanding whether these circumstances that shaped early life morbidity and mortality had changed from those observed 12 years earlier in the 1958 cohort. As both cohort studies evolved to follow individuals throughout their lives, from childhood, through to early adulthood and into mid-life and beyond, they have transformed our understanding of family lives, trajectories and transitions in the UK.

The rich prospective data collected within birth cohorts means that they are ideal vehicles for lifecourse research (Elder, 1998). They enable researchers to identify more precisely the impact of earlier life events on later outcomes, to model interdependencies in lifecourse trajectories in different domains, and to identify how cumulative advantage/disadvantage leads to inequalities within cohorts across the lifecourse. Furthermore, because information is collected about and from a variety of persons – parents, teachers and the cohort members themselves – the studies have shown how family members' lives are linked together. In combination, they are important tools for understanding differences between cohorts, and generational change.

In this chapter, we explore family transitions broadly as events relating to family structure, partnership formation and dissolution, and childbearing. We examine the scientific contribution of the 1958-born National Child Development Study (NCDS) and the 1970-born British Birth Cohort Study (BCS70). While establishing the scientific contribution of such a broad base of literature is not an exact science, we have used systematic methods to identify key literature, and also present some alternative metrics of impact and traction among different audiences, alongside a narrative analysis. First, we provide an overview of the data collected in both studies and the types of scientific questions they serve, before describing, in brief, the systematic methods used for identifying relevant studies. We then explore findings.

## 7.2 DATA ON FAMILY TRANSITIONS WITHIN THE COHORTS, AND LIFECOURSE RESEARCH

The 1958 National Child Development Study (NCDS) began as a study of Perinatal Mortality focussing on an initial 17,415 births in a single week in March 1958. Originally developed in response to concerns about persistently high levels of stillbirth and neonatal deaths, the study has continued to collect data at important developmental milestones throughout childhood, adolescence and into adulthood, and is now approaching older age. Following the birth sweep, children were retraced in childhood, and the sample was also augmented by the inclusion of immigrant children born within the same birth week. Cohort members and their families were surveyed at ages 7, 11 and 16. Adult data collection occurred when cohort members were aged 23, 33, 42, 44/5, 46, 50 and 55 years old, and the age 61/2 data collection is in the field at the time of writing (2020). The age 55 survey collected data from 9,107 cohort members. The 1970 British Birth Cohort Study (BCS70) began as the British Births Survey and shared an original focus with the NCDS in exploring maternal characteristics associated with neonatal morbidity. Born in a single week in April 1970, data were collected at birth and then later in childhood at ages 5, 10 and 16. The childhood samples were also boosted by immigrant children born in the same target week. In adulthood surveys have been carried out at ages 26, 30, 34, 38, 42 and most recently at age 46, when the survey successfully engaged with over 8,500 cohort members from an original sample of over 17,000 cohort members.

For both cohorts, the way in which information about family structure and transitions is collected changes over time. In both studies, information is available from birth about the marital status of the mother, and in the subsequent childhood sweeps respondents are asked to define the relationship of the cohort member to their mother- and father-figure, as well as to siblings and other household members. In adulthood, information is collected at each sweep regarding legal marital status and current cohabitation, and family structure can be derived from the household grid. Retrospective histories include the dates of entry and exit from co-residential partnerships, which provide more precise information on the timing of events such as divorce and separation. The studies collected pregnancy histories (females), and dates of birth of children born to cohort members, as well as information about grandchildren. Both cohorts conducted a one-off ‘offspring’ study of cohort member children, when the cohort was in its early 30s.

The data available can be used to explore a range of research questions related to family transitions, particularly through the lens of the lifecourse. Thus, they cover key demographic events in the lifecourse such as leaving the parental home (Kiernan, 1992; Jones, 1987), entry into first partnership (Berrington and Diamond, 2000), entry into parenthood (Dearden et al., 1994; Kiernan, 1997; Kneale and Joshi, 2008), including into teenage pregnancies (Ermisch and Pevalin, 2003) higher order births (Berrington and Pattaro, 2014), partnership instability (Berrington and Diamond, 1999; Bukodi, 2012; Cheung, 1998; Feijten et al., 2009; Mandemakers et al., 2010), re-partnering (Elliott and Richards, 1991b), multi-partner fertility (Steele et al., 2005), complex family formation (Feijten et al., 2009), step-parenting (Feijten et al., 2009), and becoming a grandparent (Hansen et al., 2009).

As the findings discussed in more detail further below reveal, the longitudinal lifecourse design also enables a rich variety of questions to be addressed. Compared to household panels, which follow representative snapshots of the whole population, the birth cohort studies are made up of individuals all at the same age, providing large samples experiencing similar

developmental stages and lifecourse transitions, but with very significant heterogeneity in their nature and timing. As an example, while at age 55, 14 per cent of NCDS cohort members still had a dependent child (under 18) in their household, and 38 per cent were already grandparents (Brown et al., 2014).

One theme running through much of the literature cited in all the sections below is the impact of earlier life events on later outcomes, including family dissolution (Section 7.4) and teen parenthood (Section 7.6). Moreover, much of the literature is concerned with identification of the mechanisms and pathways through which earlier experiences affect later outcomes (e.g., Berrington and Pattaro, 2014). The studies also enable examination of interdependencies in lifecourse trajectories in different domains, such as between education, employment, child-bearing, housing and health (Bukodi, 2012; Elliott et al., 2001; Lacey et al., 2017; McMunn et al., 2015); and the interweaving of biological and social data (see Section 7.8). They have been very powerful for demonstrating the cumulative effects of advantage and disadvantage (e.g., see Section 7.7). The cohort studies have also allowed for understanding of intergenerational transmissions of demographic behaviours and the ways in which family members' lives are linked (e.g., in transitions to adulthood, Section 7.5). Finally, a key property of these studies is their ability to support cross-cohort comparisons, enabling examination of secular trends across cohorts as well as changing associations over time, as demonstrated in numerous examples below (e.g., increasing preference towards cohabitation, Section 7.5, and rising age at first parenthood, Section 7.6).

The studies' rich multidisciplinary content and their breadth of coverage has also been instrumental to their contribution. For example, the cohort studies are one of the few datasets in the UK where we can compare expectations and intentions for family formation with later outcomes (Berrington and Pattaro, 2014). Collection of rich contextual data allows adjustment for confounding not possible in less extensive studies, and both geographical information (Kelly, 2011) and pregnancy histories (Goodman et al., 2004) create opportunities for more powerful causal narratives through identification of natural experiments.

Of course, as the cohorts move through middle age and eventually into their older age, their concerns will also transition. For example, the earlier research discussed in this chapter is typically focussed on childhood, adolescence and entry to adulthood, while emerging research now addresses issues such as provision of grandparental care (Waynforth, 2012a), and the emergence of a 'sandwich' generation and intergenerational care (Vlachantoni et al., 2019).

### 7.3 IDENTIFYING COHORT STUDY CONTRIBUTIONS

Our work is undertaken as part of a larger systematic review (see Villadsen et al., forthcoming), which focussed on identifying impactful publications from the NCDS and BCS70 published since 1980. A total of 287 journal articles, theses, books and book chapters, and reports and working papers were identified within our systematic review as exploring families and family transitions using NCDS data, and of these, 156 were indexed on the Web of Science, which predominantly reflects peer-reviewed publications, allowing us to conduct further scientometric analyses on this subset (see Section 7.8). Meanwhile, a total of 138 journal articles, theses, books and book chapters, and reports and working papers were identified as exploring families and family transitions using BCS70 data and published after 1980, and several of these also used data from other studies including the NCDS. Of these, 70 were indexed on the

Web of Science. Here, we explore the findings of some of the most highly cited studies among those found through the systematic search. We also include findings from studies known to the authors which are not among the most highly cited, and reports from a small number of studies published more recently that have received a number of citations within their first years since publication, and that we expect may be particularly impactful in this field in the future (e.g., Bernardi and Boertien, 2017; Bramley and Fitzpatrick, 2018; Golsteyn and Magnée, 2017; Lacey et al., 2014). Findings are explored according to a number of substantive topic areas in which the studies have made particularly significant contributions.

## 7.4 FAMILY DISSOLUTION AND OUTCOMES FOR CHILDREN

### 7.4.1 NCDS Contributions

With respect to family transitions and demographic circumstances, a substantial contribution of the NCDS has been in understanding the impact of parental separation on children, both in the short term and for adult life (e.g., Bhrolcháin et al., 2000; Chase-Lansdale et al., 1995; Cherlin and Furstenberg, 1991; Cherlin et al., 1995; Cherlin et al., 1998; Cheung, 1998; Elliott and Richards, 1991a, 1991b; Ely et al., 1999; Furstenberg and Kiernan, 2001; Kiernan, 1997; Kiernan and Cherlin, 1999; Kiernan and Mueller, 1998; Mandemakers et al., 2010; Rodgers et al., 1997; Sigle-Rushton et al., 2005; Sohn, 2004; Thomas and Högnäs, 2015; Wadsworth and Maclean, 1986). A seminal paper in this field was a cross-cohort longitudinal study examining the impact of divorce on NCDS children, as well as on children born between 1965 and 1969 in a smaller US-based study (the National Survey of Children or NSC;  $n = 2,279$ ) (Cherlin and Furstenberg, 1991). The study examined if and how parental separation occurring between 7 and 11 years in the NCDS (and between 7–11 years and 11–16 years in the NSC) impacted on children's outcomes, concluding that, although the impact appeared generally negative with respect to behavioural and conduct problems, as well as in terms of educational achievement, much of the impact was explained by pre-existing problems in these areas, a conclusion that was also reached in several further NCDS papers on the topic (Chase-Lansdale et al., 1995; Cherlin et al., 1995; Cherlin et al., 1998; Kiernan, 1997; Thomas and Högnäs, 2015).

As NCDS children reached their 11th birthday, the 1969 Divorce Reform Act was passed, and enacted in 1971, giving additional grounds for divorce and leading to an increase in the number of divorces nationwide. The impact of divorce continued to be studied by a number of researchers, although despite parental divorce becoming increasingly commonplace between the childhoods of 1958 and 1970-born cohort, there was little discernible difference in the estimated impact over time (Sigle-Rushton et al., 2005). Later explorations showed that children of divorced parents may be more likely to leave the parental home earlier in young adulthood because of conflict than young people whose parents' relationship remained intact, and were more likely to experience early and/or unmarried parenthood (Bhrolcháin et al., 2000; Cherlin et al., 1995), partnership dissolution (Kiernan, 1997; Kiernan and Cherlin, 1999; Kiernan and Mueller, 1998), as well as persistent disparities in mental health in later life (Chase-Lansdale et al., 1995; Cherlin et al., 1998; Rodgers et al., 1997). Further evidence on family dissolution in relation to transitions to adulthood is discussed in Section 7.5. Children of divorced parents were also shown to experience poorer labour market outcomes (Fronstin et al., 2001).



Adverse outcomes were by no means synonymous with experience of divorce and the majority of children whose parents divorced did not experience these outcomes (Bhrolcháin et al., 2000; Chase-Lansdale et al., 1995; Cherlin et al., 1995; Cherlin et al., 1998). Some studies also demonstrated that adverse impacts tended to attenuate as NCDS children moved further into adulthood (Rodgers et al., 1997), and most impacts appeared to operate indirectly through mediating circumstances (Kiernan, 1997; Kiernan and Cherlin, 1999). However, this was not the case for all outcomes, with one recent study suggesting that the impact of childhood divorce cast a long shadow on cohort members' mental health and feelings of suicidal ideation at age 45, substantially raising the odds of suicidal ideation by over six times that of cohort members who did not experience childhood divorce, although this was mediated by subsequent adult life events (Stansfeld et al., 2017).

Earlier findings (based on analyses of the earlier 1946 birth cohort) suggesting that the impact of divorce on later life mental health was worse for females than males were not replicated in some later studies using NCDS data (Rodgers et al., 1997), although the differences by gender for other outcomes were found in other studies (Bhrolcháin et al., 2000; Stansfeld et al., 2017). Instead, studies pointed towards the impact of divorce being a complex blend of selection and socialisation (Bhrolcháin et al., 2000; Furstenberg and Kiernan, 2001). Overall, NCDS studies contributed to a reframing of the debate around family structures and transitions, highlighting that the quality of relationships within families was more important than the structure of family units in determining child outcomes.

#### **7.4.2 BCS70 Contributions**

BCS70 data have continued to reframe our understanding of the consequences of changing family structures on outcomes, both in terms of exploring the impact of cohort members' parents' union dissolution (e.g., Bernardi and Boertien, 2016, 2017; Ely et al., 1999; Lacey et al., 2014; Mandemakers and Kalmijn, 2014; Sigle-Rushton et al., 2005) as well as the transition patterns into and out of partnerships among cohort members themselves (Lau, 2012; Steele et al., 2006a; Steele et al., 2006b). Building on earlier explorations with NCDS data, a key question for researchers is whether the impact of partnership dissolution on children has attenuated over time, given that experience of parental separation has become a much more commonplace circumstance for children. Sigle-Rushton and colleagues examined whether 1970-born children were less susceptible to the negative impact of parental separation compared to 1958-born children both in the short term (age 10/11) and long term (age 30/33). Their results unexpectedly suggested that there was little change in the magnitude of the effect between cohorts and that children who experienced the separation of their parents were more likely than other children to experience malaise, to report having no qualifications, and to report being in receipt of means-tested benefits in adulthood. A similar finding, looking across three birth cohorts (1946, 1958 and 1970) was uncovered when exploring the impact of parental separation on educational outcomes in childhood, where again theorised secular changes in the impact of divorce were not observed (Ely et al., 1999). Later researchers have focussed on how the impact of divorce on childhood educational outcomes varies by childhood socio-economic circumstance, finding that impacts can be greater for children from wealthier backgrounds, who tend to experience a greater income 'shock' as a result of divorce (Bernardi and Boertien, 2016), although this is also sensitive to the educational level of both parents (Mandemakers and Kalmijn, 2014). BCS70 data suggest there exists little socioeconomic

gradient in the impact of divorce on childhood educational attainment among those children who remain resident with fathers, where the impact on the material circumstances of children are more muted (Bernardi and Boertien, 2017). Finding better ways of supporting children and breaking the link between parental separation and poorer educational attainment could have far-reaching consequences, including reducing levels of adult psychological distress, given that poorer childhood educational attainment is found to be a particularly important mediator in explaining adult psychological distress among children from separated families (Lacey et al., 2014).

BCS70 data also illuminated a number of factors that could promote resilience among children who experience family dissolution; for example, one study found that children who were breastfed were substantially more resilient to some of the psychosocial stresses experienced during family break-up even after accounting for a number of controlling factors, with the researchers theorising that breastfeeding was a marker of exposure to other maternal characteristics (Montgomery et al., 2006).

Although BCS70 data have illuminated that the link between parental separation and poorer outcomes has remained relatively stable over time, other secular changes in partnership formation and dissolution patterns have been identified. Cohabitation was shown to be an increasingly accepted and stable union in which to raise children among BCS70 women compared to the earlier 1958-born cohort (Berrington, 2003; Steele et al., 2006a), with cohabitation before marriage found to neither raise nor decrease the risk of marital dissolution compared to directly entering a marriage (Steele et al., 2006b). Explorations of cohabitation by sexual orientation have found that same sex cohabiting unions have higher hazards of dissolution than is the case for opposite sex cohabiting unions and marriages (Lau, 2012); the increased societal acceptance of same sex unions, as evidenced by the enactment of legalisation allowing same sex marriage in 2014, may mean that such differentials attenuate in future explorations.

## 7.5 FAMILY STRUCTURE AND TRANSITIONS INTO ADULTHOOD

### 7.5.1 NCDS Contributions

The extensive data collected on families of origin, and on partnership, parenting, housing and labour market histories have enabled important research on young people's experience of transitions into adulthood. Early investigations focussed on the way in which childhood circumstances shape the timing, sequence and context of becoming an adult. The same period (1970–90) during which cohort members moved from adolescence into becoming teenagers and young adults corresponded to a substantial increase in the number of lone parent and blended families (step-parent families) (Kiernan, 1992). Kiernan and colleagues' examination focussed on the way in which family structure during childhood influenced cohort members' own transitions to adulthood up to age 23, finding that young women growing up in blended families and lone parent families were particularly vulnerable to early transitions to parenthood and partnership relative to those growing up in intact families; for young men, living in a blended family was associated with early transitions relative to lone and intact parent families (Kiernan, 1992). This theme of family disruption and its impact on the lifecourse trajectories of NCDS children was developed by a number of other researchers (Berrington

and Diamond, 1999; Bhrolcháin et al., 2000; Buchanan and Flouri, 2001; Cherlin et al., 1991; Cherlin et al., 1995; Cherlin et al., 1998; Dearden et al., 1994; Furstenberg and Kiernan, 2001; Kiernan and Cherlin, 1999; Sheppard and Sear, 2012; Sigle-Rushton et al., 2005).

Among some researchers, a key focus has been on understanding the extent to which the impact of family dissolution is in fact due to poorer family relationships and circumstances preceding dissolution, rather than family break-up itself (Bhrolcháin et al., 2000; Furstenberg and Kiernan, 2001; Kiernan, 1992). For example, some studies found that the experience of teenage fatherhood was more strongly driven by childhood experiences of poverty rather than changes in family structure or family functioning (Dearden et al., 1994). Later studies often omitted family structure factors from models exploring transitions to adulthood altogether in favour of broader constructs around family function or family disruption (Dearden et al., 1995; Hobcraft, 2008). Although, on family dissolution in particular, some studies continued to find that family dissolution experienced during childhood exerted an impact on the timing of adulthood transitions experienced by cohort members even after controlling for a number of contextual predictors. However, often the timing and circumstances of family dissolution were of particular importance, as were the circumstances or status of the transition marker itself (Steele et al., 2005). For example, very early experience of family dissolution led to early fatherhood, although experiences of family dissolution occurring later in childhood showed a weaker trend (Sheppard and Sear, 2012). Meanwhile, NCDS cohort members who had experienced divorce during childhood were also likely to exit from their childhood home quicker than those cohort members from intact families, but only where exit from the parental home was for reasons other than partnership (Holdsworth, 2000). NCDS studies provided evidence that the impacts of family dissolution on children's later lifecourse trajectories were complex and multidimensional, but again suggested that any negative associations attenuated once preceding factors, and mediating pathways, were accounted for.

Kiernan and colleagues' work (including Kiernan, 1992) also provided a basis for exploring the circumstances of transitions to parenthood and partnership and the relationship with childhood factors more broadly. NCDS cohort members were among the first cohorts to cohabit with partners in large numbers before entry into marriage, but even more significantly, to spend long periods in cohabiting relationships. Investigations of childhood antecedents suggested that cohort members' own family structures were associated with decisions on whether to marry or cohabit (Berrington and Diamond, 2000; Steele et al., 2006a), as well as whether to transition between cohabitation and marriage (Berrington, 2001; Steele et al., 2006b). Experiencing parental separation was found to raise the risk of cohort members subsequently experiencing relationship dissolution (Steele et al., 2005), although this effect may be mediated through other routes including later lifecourse experiences, lower levels of education, early age at marriage, and increased propensity to cohabit (Berrington and Diamond, 1999, 2000; Steele et al., 2006a). The impact of other forms of disruption and adversity, including experience of childhood mental ill-health, have also been explored as antecedents of the timing of partnership and parenthood. For example, cohort members who experienced mental health issues were 12 per cent less likely to be married or cohabiting at age 33, and were 8 per cent less likely to be with the same partner at age 42 as at age 33 (Goodman et al., 2011).

### **7.5.2 BCS70 Contributions**

Studies using BCS70 data illuminate the way in which the lifecourse patterns of later born cohorts have shifted from the dominant traditional trajectories towards more diverse trajectories (Ross et al., 2009), a marked shift over time, particularly among women (McMunn et al., 2015). In the NCDS cohort, entry into cohabitation was more common for women from more privileged social class backgrounds. As discussed by Berrington and Diamond (2000), the greater prevalence of premarital cohabitation among those from more advantaged backgrounds results in part from periodic increases in the acceptability of cohabitation between the mid-1970s and mid-1980s. Women from wealthier class backgrounds were more likely to have delayed entry into first partnership into their later 20s, and in the 1980s were facing the decision of whether to marry or cohabit at a time when cohabitation was more common. By the time the 1970 birth cohort began forming partnerships, cohabitation had become firmly established as a majority practice, and the proportion of those who chose to cohabit rather than marry as their first event is more similar across social class backgrounds. Berrington (2003) showed that lone parenthood and entry into cohabitation increasingly replaced shot-gun marriages as the result of pre-partnership pregnancy. However, Berrington (2003) also notes that within-cohort differences in the sequencing of family events in young adulthood according to social class background can be just as large, if not larger, than inter-cohort differences. Her study found significantly higher levels of childbearing within cohabitation among those from poorer socioeconomic backgrounds. Earlier transitions to adult roles, including partnership and parenthood, are associated with an increased risk of experiencing psychological distress in adulthood, but so is failing to make some key transitions (Sacker and Cable, 2010). Later studies have revealed that many of the lifecourse transition pathways follow values and attitudes reported by cohort members earlier during childhood, with cohort members aged 16 who answer positively about the importance of marriage and having children of their own lives being much more likely to have attained these transition markers by age 34 (Finlay et al., 2015). Later in life, BCS70 data have been used to demonstrate that the improved mental wellbeing resulting from living with a partner not only applies to those who are married, but also to those in cohabiting relationships (Perelli-Harris and Styrac, 2018).

## **7.6 BECOMING A PARENT: TIMING AND PARTNERSHIP CONTEXT**

### **7.6.1 NCDS Contributions**

The context of the timing of parenthood changed substantially over the lifecourse of NCDS cohort members; the first legal abortions in England and Wales were performed in 1968 and the contraceptive pill was made available to unmarried as well as married women for the first time in 1967. However, levels of teenage motherhood also spiked in the 1970s as the cohort members themselves became teenagers, and the timing of parenthood has been of intense interest to researchers using data from both cohorts, being increasingly recognised as a marker of social polarisation. Researchers have variously examined levels and determinants of teenage and early parenthood (Kiernan, 1996; Kiernan et al., 1995; Kneale et al., 2013; Manlove, 1993, 1997; Nettle et al., 2013), as well as later and postponed parenthood (Berrington and Pattaro,

2014; Kneale, 2010; Kneale and Joshi, 2008; Schoon et al., 2009; Simpson, 2009), and childlessness (Kneale and Joshi, 2008; Simpson, 2009). These have often focussed on multiple cohorts, exploring continuities and differences in the antecedents of parenthood.

Around 12 per cent of the 1958-born cohort experienced a birth before the age of 20, although this was strongly demarcated by experience of childhood poverty, and just 8 per cent of women who became teenage mothers did not experience poverty compared to 52 per cent of women who gave birth between the ages of 23 and 32 years (Hobcraft and Kiernan, 2001). Poverty is just one of a number of determinants of early parenthood identified including the age at which cohort members' own parents gave birth, cohort members' own fertility intentions and desires, and the extent to which their parents held high aspirations for future educational and career trajectories (Kiernan, 1996; Kiernan et al., 1995; Kneale, 2010; Kneale et al., 2013; Manlove, 1993, 1997; Nettle et al., 2013). A number of studies have focussed on the impact of educational achievement and its relationship with the timing of parenthood. Half of women with no qualifications were estimated to be mothers at age 22, but less than 1 in 20 women with tertiary qualifications were mothers at this point (Kneale and Joshi, 2008). Popular speculation about the growing numbers of graduate women had led to the inflation of estimates of future rates of childlessness. NCDS data were used alongside BCS70 data to show that graduate women exhibited consistency in their childbearing intentions; that any effect that was being witnessed was more likely to be a postponement of parenthood as opposed to an avoidance; and that the most striking postponement was being witnessed among graduate men, as opposed to graduate women (Kneale and Joshi, 2008). The repeated measures of fertility intentions meant that the NCDS provided a unique opportunity to examine how family size preferences develop in adolescence and become intentions in young adulthood, and how fertility intentions are modified across the lifecourse as a result of other lifecourse transitions and events. Berrington and Pattaro (2014) found that parental characteristics (e.g., maternal age at first birth) and socialisation in childhood (e.g., sibling group size, parental expectations for the respondent's education) affected both the desired timing of entry into parenthood and number of desired children. Family size intentions as reported at age 23 were revised downwards in young adulthood as individuals experienced more of life, entering the labour market and seeing for themselves the economic and non-economic opportunity costs that childbearing entailed. At age 46, mean completed family size (1.76 and 1.91 for men and women, respectively) was significantly lower than that intended at age 23 (2.23 and 2.30, respectively). In total, just 36 per cent of men and 43 per cent of women achieved their intended number of children, with correspondence greatest for those who wished to remain childless and those who intended two births. There was a tendency to under-achieve fertility intentions, especially among those who originally intended larger families.

In addition to exploring the antecedents around the timing of parenthood, there have been a number of attempts to understand the outcomes of early or later parenthood on cohort members' outcomes. Power and colleagues explored the factors shaping health inequalities during young and mid-adulthood, finding that (early) age at first motherhood was an important explanatory factor and driver of much of the observed health inequalities between social classes that emerged (Power et al., 1998). Other explorations have also examined the outcomes of early parenthood, generally observing that mediating factors could not fully explain disparities in labour market, demographic and health outcomes (Chevalier and Viitanen, 2003; Hobcraft and Kiernan, 2001; Hope et al., 1999; Kaplan and Mascie-Taylor, 1992; O'Connor, 1997). In the case of labour market outcomes, for example, the impact of teenage motherhood

was estimated to lead to a decrease in adult wages of between 5 and 22 per cent (Chevalier and Viitanen, 2003).

### **7.6.2 BCS70 Contributions**

Although earlier cross-cohort comparisons revealed that BCS70 cohort members were postponing childbearing, later explorations of the BCS70 cohort investigated the extent of recuperation of childbearing at later ages. Berrington (2017) showed that a significant proportion of childless women at age 30 intended to have children but of those women who intended to become mothers, almost one-third remained childless. When asked at age 42 for reasons why they had not had any biological children, career ambitions were rarely cited as a driver of childlessness. Instead, many childless cohort members reported that they had not found the right partner, or that they did not want to have children (Berrington, 2017). While the fertility histories of BCS70 cohort members suggests a significant postponement of parenthood, evidence from cohort members during childhood also finds that children raised by older mothers exhibited no demonstrable adverse outcomes, and may in fact show modest advantages (Pollock, 1996).

Alongside postponement of parenthood, a major shift that occurred in patterns of childbearing in the UK demonstrated by the BCS70 cohort was the changing nature of partnership context and in particular the shift from time spent in direct marriages to time spent in cohabitation even when compared to the 1958 cohort born just 12 years earlier (Berrington, 2003; Hobcraft, 2008). BCS70 data have also been used to identify some of the specific factors associated with accelerated entry into parenthood. One study focussed on childhood factors, but found that early antecedents often fail to explain a very large part of the variation in timing of entry to parenthood or much of the gender or cohort differences in parenthood behaviours, although taking a more nuanced approach to examine gender-specific pathways did uncover specific routes, for example, that girls were more susceptible to lack of high parental interest (in education), which in turn increased the likelihood of experiencing motherhood before age 24 (Hobcraft, 2008). Relationships between cohort members and their parents during adulthood have also been explored in terms of their impact on fertility decisions, with the evidence suggesting that cohort members' greater proximity to their parents hastened transitions to parenthood; however, this was not conditional on reports of financial help or assistance with childcare, and simply the presence of a supportive (grand)parent was associated with a higher likelihood of childbearing (Waynforth, 2012a).

The age at first parenthood has become more socially polarised over time, and the BCS70 study has been used to explore consequences of this change. Just under 10 per cent of cohort members were themselves born to a teenage mother, and were much more likely to experience social disadvantage in childhood (Cheesbrough, 2003; Wadsworth et al., 1984). Despite these inauspicious starts, it was in fact cohort members born to older mothers in the BCS70 who tended to have lower childhood cognitive ability scores (Goisis et al., 2017). In more recent cohorts, this trend has reversed and having an older mother is positively associated with cognitive ability, due to postponed parenthood being increasingly associated with socially advantageous characteristics (Goisis et al., 2017). Consequently, many BCS70 studies have focussed on the antecedents of teenage parenthood, finding that cohort members with lower and declining cognitive ability in middle childhood were at elevated risk of becoming teenage mothers (Feinstein and Bynner, 2004). However, although the risk of teenage motherhood

generally increases among girls with an array of different indicators of social disadvantage, studies also suggest that there remain high levels of unexplained variance, and that the greatest (absolute) level of teenage motherhood arises among girls with only low or moderate risk profiles (Kneale et al., 2013).

Evidence from the BCS70 shows that much of the outcomes of young parenthood result from the selection into young parenthood of men and women from poorer socioeconomic backgrounds. For example, for young women from more disadvantaged backgrounds, teenage parenthood may not introduce additional labour market penalties, when econometric methods are used to take selection into teenage motherhood more fully into account (Goodman et al., 2004). However, in other papers, a number of associations with negative outcomes have been shown to remain for both mothers and fathers (Berrington et al., 2005a; Borgoni et al., 2015). Among men, teenage fatherhood is found to increase the risk of being unemployed, living in social housing, of being in receipt of means-tested benefits, and of experiencing malaise at age 30 (Berrington et al., 2005b; Sigle-Rushton, 2005). For women, among other outcomes, econometric models show that teenage motherhood increases the chances of a woman partnering with a poorly educated and unemployment-prone man (Ermisch and Pevalin, 2005), while graphical chain models identified a higher risk of poor mental health (Borgoni et al., 2015).

Finally, as well as examining the antecedents of parenthood, researchers using BCS70 data have explored how different parenting styles and relationships between parent and child were associated with the development of conduct problems among cohort members, finding that children who experienced a more authoritarian parenting style were at greater risk of childhood conduct problems (Thompson et al., 2003), with parenting style and relationships having far-reaching impacts, and cohort members with weaker parental relationships in childhood also being at higher risk of mental health problems in adulthood (Morgan et al., 2012).

## 7.7 MOTHERHOOD AND LABOUR MARKET OUTCOMES

### 7.7.1 NCDS Contributions

Studies of NCDS data to explore the relationship between labour market outcomes and demographic transitions have been extensive and impactful (Dex et al., 1998; Graham Helen, 2012; Joshi, 1985; Joshi and Paci, 1998; Viitanen, 2004; Waldfogel, 1994; Waldfogel et al., 1993). Motherhood is one important theme. Studies have illuminated the wage penalty that NCDS mothers faced, both in terms of gender and motherhood status, with mothers at age 33 found to earn only 64 per cent of men's pay, while non-mothers were earning 84 per cent (Waldfogel, 1998). Earlier studies expressed some optimism that this wage penalty may attenuate with legislation introducing job-protected maternity leave in 1993 (Waldfogel, 1995), given that women with employment continuity were found to be as well paid as childless women at age 33, although wages remained below those of men (see Joshi et al., 1999). Subsequent investigations indicated that the gains from these policies were far from uniform (Joshi et al., 1996), and that mothers continued to experience substantial penalties in wages (Viitanen, 2014), particularly those who gave birth as teenagers (Chevalier and Viitanen, 2003). Some studies emphasised that early experiences of disadvantage set women into long-term employment, marriage and parenthood biographies that then intensified existing disparities (McDonough et al., 2015; Schoon et al., 2012). However, the studies also helped to unpick the nuance between

different early lifecourse exposures and later outcomes. For example, among NCDS women who grew up in lone parent families, those where the mother did not work were less likely than those growing up in two-parent families to experience later educational and labour market successes; in contrast, among women who grew up in lone parent families with a mother in continuous employment, the adverse impacts usually associated with lone parenthood attenuated entirely when compared with cohort members who grew up in intact families (Kiernan, 1996).

Some of the impacts of motherhood uncovered were also tied to a lack of recognition for women's skills and contribution in the labour market (Bynner et al., 1996) and the division of labour and broader power dynamics in the home (Ward and Dale, 2008; Graham Helen, 2012). Later explorations suggested that the age at entry into motherhood (Macran et al., 1996), whether or not she possessed occupational qualifications (Elliott, 2001; Macran et al., 1996) and whether she returned to full- or part-time work (Macran et al., 1996; Prowse, 2006), moderated the extent to which mothers experienced a penalty on earnings. Implicitly, these same characteristics also moderated the extent to which mothers were advantaged by policy changes and employer provisions to support working mothers (Macran et al., 1996). Analyses comparing NCDS maternal employment trends across time with other UK cohorts suggested that while growing numbers of women remained in full-time employment, and that the work-family lifecourse patterns were increasingly similar between men and women, high levels of part-time working and career breaks remained common among younger cohorts of women, suggesting labour market detachment was a persistent phenomenon (McMunn et al., 2015). Increasingly, the impacts of motherhood and the disruptions to labour market attachment that can follow are also being explored across different outcomes, with researchers finding negative impacts on health among women whose biographies were associated with earlier parenthood and weaker labour market attachment (Lacey et al., 2017; McDonough et al., 2015).

### **7.7.2 BCS70 Contributions**

BCS70 women experienced a labour market that offered greater opportunity to juggle motherhood and employment compared to earlier cohorts. Many of these opportunities had been previously restricted; maternity leave had been used as an incentive to attract and retain workers mainly in professional roles, with universal maternity leave only being extended to all working women in the early 1990s. Women working in professional roles had been expected to be the main beneficiaries of changes to maternity leave eligibility and allowances (Smeaton, 2016). However, analyses of the work histories of BCS70 mothers found that, when compared with the earlier NCDS cohort, occupational polarisation in return to work rates had decreased over time, and all mothers were now returning to work at a faster pace (Smeaton, 2016; although the enactment of family friendly policies of New Labour would have mainly impacted BCS70 cohort members having children in their 30s and 40s). Furthermore, the rates of downward occupational mobility were also found to be falling between cohorts, with 36 per cent of mothers experiencing downward occupational mobility in the 1958 cohort compared with 22 per cent in the later BCS70 cohort. The relationships between labour market transitions and family dynamics have been explored for men as well as women using BCS70 data, as demonstrated in Bukodi's study which explored how labour market outcomes shaped whether BCS70 men (and those of the NCDS) entered into marriage or cohabitation. Her study found that men who experienced occupational instability were less likely to enter directly into marriage than



cohabitation, and that men who experienced instability early on in their careers were also less likely to see a cohabiting relationship transform into a marriage (Bukodi, 2012).

## 7.8 BIOLOGY, HEALTH AND FAMILY TRANSITIONS

### 7.8.1 NCDS Contributions

Both NCDS and BCS70 studies combine rich social data alongside biological data, and this has become an important theme for their outputs. NCDS data were used to examine competing hypotheses in theoretical biology in relation to partnership and fertility. For example, examinations of the relationship between height and reproductive and partnership success found that taller men were more likely to find a long-term partner and that height was a characteristic selected for in recent human evolution (Harper, 2000; Nettle, 2002), although stabilising selection also meant that extremely tall men were more likely to be childless (Nettle, 2002); among women the association appeared to reverse and tall women were less likely to be married (Harper, 2000). Subsequent studies have continued to explore issues in evolutionary and human biology relating to partnerships and fertility by focussing on disparities in biological characteristics (e.g., height) between NCDS cohort members and their partners. In the case of fertility, biological differences between spouses, and particularly differences in height, were not as strongly associated with fertility as social factors (Krzyzanowska et al., 2015). However, early biosocial factors were found to pattern reproductive behaviour and lead to earlier motherhood, with low birthweight, short breastfeeding duration, maternal separation during childhood, frequent residential moves and a lack of paternal involvement all predicting earlier parenthood, with all robust to the effect of socioeconomic status apart from low birthweight (Nettle et al., 2010; Nettle et al., 2011).

Ploubidis et al. (2015) examined the link between lifetime partnership status and objective biomarkers of health captured among the members of the NCDS in their mid-40s. They found that couples who married in their 20s and early 30s, and remained married, had similar measures of objective health status to unmarried couples living together, and that middle-aged men and women who had separated or divorced but then re-partnered were also no more likely than those who remained married to have cardiovascular or respiratory health problems in early middle age. Those who had never married nor lived with a partner had the highest average risk of cardiovascular disease and respiratory problems.

An extensive literature on family transitions and mental health using the NCDS study is not covered here, though some other sections of this chapter make reference to this (e.g., on family dissolution in Section 7.4).

### 7.8.2 BCS70 Contributions

BCS70 data have been used to examine the relationship between family transitions and physical and mental health across a variety of domains. Unlike in NCDS, BCS70 collected direct measures of maternal mental health during the childhood of the cohort members. Early in the lifecourse, among mothers of BCS70 cohort members, mothers of twins were much more likely to report malaise scores indicative of depression than mothers of singletons of the same age; furthermore, mothers of twins as well as mothers of singletons closely spaced in age were

at higher risk of experiencing depression than mothers of children widely spaced in age or mothers of a single child (Thorpe et al., 1991).

A more common theme of a number of studies using BCS70 is how non-normative family building patterns are both an antecedent as well as an outcome of adverse health outcomes. Beginning with birthweight, researchers have found that cohort members born to an unmarried parent had lower birthweights, and were at greater risk of adverse birth outcomes (Golding et al., 1986). Moving into childhood, an early study exploring how family composition influenced child health suggested that five-year-old children living in either lone parent or step-parent families were at a greater risk of experiencing childhood accidents than children living with two natural parents, with nearly twice the proportion of children in both stepfamilies and single-parent families being admitted to hospital after accidents (Wadsworth et al., 1983); children with younger mothers were also found to be at increased risk of accidents (Stewart-Brown et al., 1986). Later studies also suggested that being raised in one-parent families was associated with an earlier age at puberty (Waynforth, 2012b). Family dynamics and the quality of relationships in the home were found to cast a long shadow over the health of BCS70 children, and those who reported poorer relationships with their parents at age 16 were more likely to report a greater number of physical health problems in adulthood (Stewart-Brown et al., 2005).

Health in childhood has been found to influence family building patterns in a number of ways. For example, researchers have been interested in exploring the longer-term impacts of childhood obesity, particularly given that childhood obesity rates in the UK have risen significantly. Viner and Cole (2005) examined the impact of childhood obesity across a range of outcomes, finding that children who were obese in childhood only, but not in adulthood were able to avoid many of the negative impacts across different lifecourse domains. However, for women, persistent obesity from childhood not only raised the risk of never having been employed up to age 30 years, but also of not having a partner (Viner and Cole, 2005). Similarly, lifecourse trajectories involving earlier parenthood and long-term homemaking among women were found to be increasingly associated with a greater risk of becoming obese during adulthood. Women following these pathways recorded increases in their BMIs (body mass index) between age 16 and 42 of  $6.69 \text{ kg m}^{-2}$  compared with  $4.51 \text{ kg m}^{-2}$  for women who entered motherhood later after sustained periods of employment (Lacey et al., 2017). The data also showed that these lifecourses were becoming increasingly polarised both in terms of social characteristics as well as health implications for the 1970-born cohort compared to the earlier 1946- and 1958-born cohorts.

## 7.9 UNDERSTANDING THE CONTRIBUTION OF NCDS AND BCS70 STUDIES IN ALTERNATIVE WAYS

An alternative way of identifying the impact of research besides citations is to look at mentions of work in other media, including news outlets and Twitter. Altmetric is a private company that collects metrics that go far beyond traditional citations and collects mentions on various social media platforms to provide a broader picture of the impact of recent scholarly publications (Ram, 2017). Although by its nature, these metrics are disproportionately weighted towards more recent publications, in this section we nevertheless highlight some of the publications generating most attention by these metrics, sometimes in quite unexpected audiences. This

includes a study by Rohrer et al. (2015), which examined a long-standing question of interest to developmental psychologists around whether an individual's position in a family and the presence of older and younger siblings has a long-term impact on personality. The findings from the study, which drew on NCDS data alongside data from the USA and Germany, contradicted long-standing beliefs that birth order has a lasting impact on the five big personality traits (extraversion, emotional stability, agreeableness, conscientiousness and imagination). As well as being covered in 119 news stories published by 94 news outlets globally, the findings were tweeted extensively by users globally (with a quarter of tweets originating from the USA).

These metrics can also identify ways in which studies have contributed to policy development. We know that, for example, findings from the NCDS and BCS70 on antecedents and outcomes of early parenthood informed the development of the UK Government's Teenage Pregnancy Strategy (Social Exclusion Unit, 1999) as well as subsequent government strategies to reduce teenage parenthood (DfES, 2006). Use of Altmetric also reveals that findings from the NCDS on the impact of teenage childbearing on the probability of post-compulsory education (Chevalier and Viitanen, 2003) were drawn upon by different policy sources worldwide including, for example, the Brookings Institute in evaluating Jamaica's policy for reintegrating school-age mothers back into education (Kennedy, 2017). Another study by Hertzman et al. (2001), which examined the role of family transitions, among other lifecourse transitions, in shaping self-rated health in mid-adulthood among NCDS cohort members, has been used to inform work by the National Academy of Sciences (NRC, 2004) and the Centers for Disease Control (Brennan Ramirez et al., 2008), as well as more recently the World Health Organization's work on understanding the social determinants of health (Lee et al., 2011). Goisis and colleagues' (2017) paper drawing on three cohort studies to understand the changing impact of maternal age on children's cognitive ability also attracted a notably high Altmetric score. The study found that a previously negative association between older maternal age and children's cognitive ability observed among children born in 1958 and 1970 reversed for children of the Millennium birth cohort born in 2000/1. The study gained substantial media attention, being reported across 60 media outlets and contributing to debates around the world on whether there is 'a right time to have a baby' in a diverse range of outlets from Spanish language newspaper *El Pais*, through to *Cosmopolitan* magazine. The authors explained that their findings reflected the changing characteristics of older mothers, and that where older age at motherhood had previously signified higher parity and socioeconomic disadvantage, among younger cohorts older age was associated with postponement of childbearing and socioeconomic advantage.

Finally, textual analysis of title and abstract information can also shed light on how the cohort studies have contributed to the understanding of family transitions, and how this has changed over time. Using the example of the literature identified using BCS70 (Figure 7.1), we observe that earlier studies focussed on the relationship between conditions and events of childhood such as accidents or hospital admissions and their relationship to maternal age. However, as the cohort members have transitioned to adulthood, the focus has shifted towards understanding patterns of marriage, cohabitation and partnership formation and fertility; links between these and terms reflecting class, employment and gender can also be observed as researchers have sought to investigate these links more closely. Later publications have started to switch focus and recent publications have focussed more closely on childbearing postponement and childlessness as the BCS70 cohort approached their mid-40s.

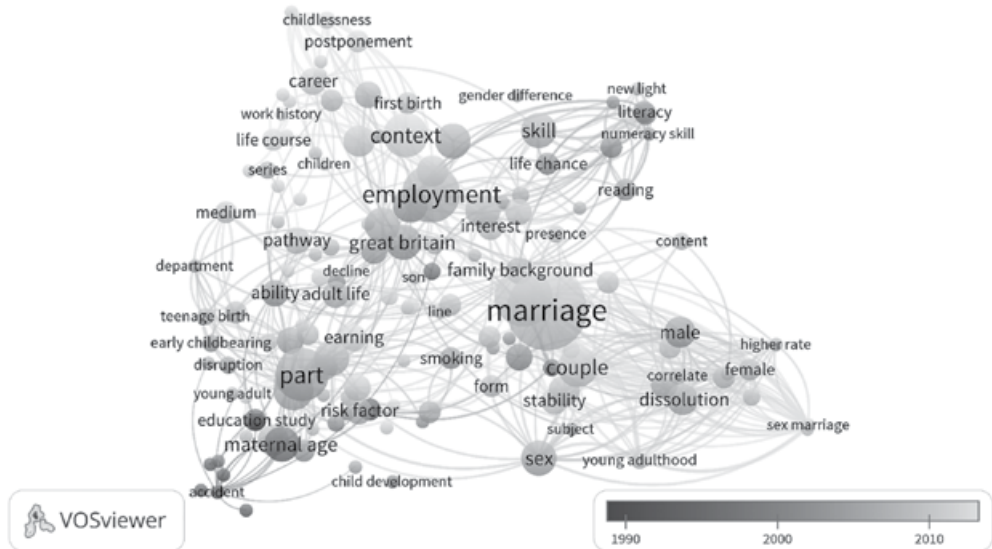


Figure 7.1 The changing focus on BCS70 family transition studies over time

## 7.10 DISCUSSION

In this chapter we have attempted to synthesise the contribution of the 1958- and 1970-born birth cohort studies to lifecourse research on family transitions through focussing on the findings of some of the most highly cited studies in the area. However, we recognise that this way of understanding the contribution of the cohort studies accounts for only a very small number of the total publications, and only a partial understanding of the contribution of the cohort studies, which is multifarious, complex and long-standing, certainly pre-dating our focus on studies published after 1980. In addition, the contribution of the studies to working papers, policy reports, books, PhD theses and teaching materials will almost certainly be underrepresented, despite the extensive searching that underpins a systematic review from which much of the material derives (Villadsen et al., forthcoming). Nevertheless, through partially lifting the lid on the contributions of both the NCDS and BCS70 in this chapter, we can start to understand some of the ways in which both cohorts have changed our understandings of family transitions.

The literature reviewed demonstrates the importance of the historical context within which the cohorts grew up and uncovers some of the effects of major social change. For example, the divorce legislation of the early 1970s meant that the 1958 cohort were one of the first that experienced parental divorce during adolescence, but this experience was much more common, and experienced much younger, during the childhoods of the 1970 cohort, although traditional family structures still remained the norm. Cohabitation prior to marriage was on the

increase as the 1958 cohort came of age, and became an increasingly common form of union in which to have children by the time the 1970 cohort were having children.

As well as documenting and assessing the antecedents and effects of social change, the results from both studies have also helped to define their meaning and to challenge some of the prevailing social attitudes of the day, such as those which characterised demographic trends like postponement of childbearing, teenage motherhood, family dissolution, cohabitation and maternal employment as pernicious and societally harmful. These were attitudes that often served to stigmatise or stifle the participation of different groups, and particularly women, in social and economic life.

While the value of the many cross-cohort comparisons generated by the 1958 and the 1970 cohorts is abundantly clear, they also point to the future, in two senses. First, they raise questions about what will be the effects of new patterns of behaviour and social norms among younger generations, such as remaining longer in and returning to the family home, as well as new relationship forms such as ‘living apart together’. Comparisons with younger cohorts that are only now entering adulthood such as the Next Steps and the Millennium Cohort Study will be extremely valuable in this respect. Second, we can also anticipate that in the future both the 1958- and 1970-born studies, independently and comparatively, will also offer opportunities for understanding later life family transitions, such as entry into grandparenthood or experience of widowhood. While the nature of these transitions cannot yet be foreseen, we can be confident that explorations of the lives of both the NCDS and BCS70 members will continue to redefine our understanding of key demographic family transitions.

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## REFERENCES

- Bernardi, F. and D. Boertien (2016), ‘Understanding heterogeneity in the effects of parental separation on educational attainment in Britain: do children from lower educational backgrounds have less to lose?’, *European Sociological Review*, **32** (6), 807–19.
- Bernardi, F. and D. Boertien (2017), ‘Explaining conflicting results in research on the heterogeneous effects of parental separation on children’s educational attainment according to social background’, *European Journal of Population*, **33** (2), 243–66.
- Berrington, A. (2001), ‘Entry into parenthood and the outcome of cohabiting partnership in Britain’, *Journal of Marriage & Family*, **63**, 80–96.
- Berrington, A. (2003), ‘Change and continuity in family formation among young adults in Britain’. S3RI Applications and Policy Working Papers, Southampton Statistical Sciences Research Institute. DOI: A03/04

- Berrington, A. (2017), 'Childlessness in the UK'. In M. Kreyenfeld and D. Konietzka (eds), *Childlessness in Europe: Contexts, Causes, and Consequences*. Demographic Research Monographs (Max Planck Institute for Demographic Research Series). Dordrecht: Springer, pp. 57–76.
- Berrington, A. and I. Diamond (1999), 'Marital dissolution among the 1958 British birth cohort: the role of cohabitation', *Population Studies*, **53**, 19–38.
- Berrington, A. and I. Diamond (2000), 'Marriage or cohabitation: a competing risks analysis of first-partnership formation among the 1958 British birth cohort', *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, **163**, 127–51.
- Berrington, A. and S. Pattaro (2014), 'Educational differences in fertility desires, intentions and behaviour: a life course perspective'. *Advances in Life Course Research*, **21**, 10–27.
- Berrington, A., I. Diamond, R. Ingham and J. Stevenson (2005a), *Consequences of Teenage Parenthood: Pathways Which Minimise the Long Term Negative Impacts of Teenage Childbearing*. Final Report for Department of Health. [https://eprints.soton.ac.uk/34783/1/full\\_report\\_-\\_november\\_05.pdf](https://eprints.soton.ac.uk/34783/1/full_report_-_november_05.pdf) (accessed 8 March 2020).
- Berrington, A.M., M.I. Cobos Hernandez, R. Ingham and J. Stevenson (2005b), 'Antecedents and outcomes of young fatherhood: longitudinal evidence from the 1970 British Birth Cohort Study'. S3RI Applications and Policy Working Papers, No. A05/09, Southampton Statistical Sciences Research Institute.
- Bhrolcháin, M.N., R. Chappell, I. Diamond and C. Jameson (2000), 'Parental divorce and outcomes for children: evidence and interpretation', *European Sociological Review*, **16**, 67–91.
- Borgoni, R., P.W.F. Smith and A. Berrington (2015), 'Simulating interventions in graphical chain models for longitudinal data', *Quality & Quantity*, **49** (2), 599–616.
- Bramley, G. and S. Fitzpatrick (2018), 'Homelessness in the UK: who is most at risk?', *Housing Studies*, **33** (1), 96–116.
- Brennan Ramirez LK, Baker EA, Metzler M. (2018), 'Promoting Health Equity: A Resource to Help Communities Address Social Determinants of Health.' Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.
- Brown, M., B. Dodgeon and A. Goodman (2014), *Caring Responsibilities in Middle Age: Evidence from the 1958 National Child Development Study at Age 55*. London: Centre for Longitudinal Studies.
- Buchanan, A. and E. Flouri (2001), 'Parental family structure and adult expectations of familial support in times of emotional need', *British Journal of Social Work*, **31**, 133–9.
- Bukodi, E. (2012), 'The relationship between work history and partnership formation in cohorts of British men born in 1958 and 1970', *Population Studies*, **66** (2), 123–45.
- Bynner, J., L. Morphy and M. Parsons (1996), 'Women, employment and skills'. NCDS User Support Group Working Paper 44, SSRU, City University.
- Chase-Lansdale, P.L., A.J. Cherlin and K.E. Kiernan (1995), 'The long-term effects of parental divorce on the mental health of young adults: a developmental perspective', *Child Development*, **66**, 1614–34.
- Cheesbrough, S. (2003), 'Young motherhood: family transmission or family transitions?'. In G. Allan and G. Jones (eds), *Social Relations and the Life Course*. London: Palgrave Macmillan, pp. 81–102.
- Cherlin, A.J. and F.F. Furstenberg (1991), 'Longitudinal studies of effects of divorce on children in Great Britain and the United States', *Science*, **252**, 1386.
- Cherlin, A.J., K.E. Kiernan and P.L. Chase-Lansdale (1995), 'Parental divorce in childhood and demographic outcomes in young adulthood', *Demography*, **32**, 299–318.
- Cherlin, A.J., P.L. Chase-Lansdale and C. McRae (1998), 'Effects of parental divorce on mental health throughout the life course', *American Sociological Review*, **63**, 239–49.
- Cheung, Y.B. (1998), 'Can marital selection explain the differences in health between married and divorced people? From a longitudinal study of a British birth cohort', *Public Health*, **112**, 113–17.
- Chevalier, A. and T.K. Viitanen (2003), 'The long-run labour market consequences of teenage motherhood in Britain', *Journal of Population Economics*, **16**, 323–43.
- Dearden, K., C. Hale and M. Blankson (1994), 'Family structure, function, and the early transition to fatherhood in Great Britain: identifying antecedents using longitudinal data', *Journal of Marriage and the Family*, **56** (4), 844–52.
- Dearden, K.A., C.B. Hale and T. Woolley (1995), 'The antecedents of teen fatherhood: a retrospective case-control study of Great Britain youth', *American Journal of Public Health*, **85**, 551–4.
- Dex, S., H. Joshi, S. Macran and A. McCulloch (1998), 'Women's employment transitions around child-bearing', *Oxford Bulletin of Economics and Statistics*, **60**, 79–97.

- DfES (2006), *Teenage Pregnancy: Accelerating the Strategy to 2010*. Nottingham: Department for Education and Skills.
- Elder, G.H., Jr (1998), 'The life course as developmental theory', *Child Development*, **69** (1), 1–12.
- Elliott, B.J. and M.P.M. Richards (1991a), 'Children and divorce: educational performance and behaviour before and after parental separation', *International Journal of Law and the Family*, **5**, 258–76.
- Elliott, J. (2001), 'The influence of qualifications on women's work histories, employment status and earnings at age 33', *European Sociological Review*, **17** (2), 145–68.
- Elliott, J. and M. Richards (1991b), 'Parental divorce and the life chances of children', *Family Law*, **21**, 481–4.
- Elliott, J., A. Dale and M. Egerton (2001), 'The influence of qualifications on women's work histories, employment status and earnings at age 33', *European Sociological Review*, **17** (2), 145–68.
- Ely, M., M.P.M. Richards, M.E.J. Wadsworth and B.J. Elliott (1999), 'Secular changes in the association of parental divorce and children's educational attainment – evidence from three British birth cohorts', *Journal of Social Policy*, **28**, 437–55.
- Ermisch, J. and D.J. Pevalin (2003), 'Who has a child as a teenager?' ISER Working Paper Series, No. 2003-30.
- Ermisch, J. and D. Pevalin (2005), 'Early motherhood and later partnerships', *Journal of Population Economics*, **18** (3), 469–89.
- Feyjten, P., P. Boyle, Z. Feng, V. Gayle and E. Graham (2009), 'Stepparenting and mental health'. In J. Stillwell, E. Coast and D. Kneale (eds), *Fertility, Living Arrangements, Care and Mobility*. Dordrecht: Springer, pp. 151–70.
- Feinstein, L. and J. Bynner (2004), 'The importance of cognitive development in middle childhood for adulthood socioeconomic status, mental health, and problem behavior', *Child Development*, **75** (5), 1329–39.
- Finlay, A., L. Wray-Lake, M. Warren and J.L. Maggs (2015), 'Anticipating their future: adolescent values for the future predict adult behaviors', *International Journal of Behavioral Development*, **39** (4), 359–67.
- Fronstin, P., D.H. Greenberg and P.K. Robins (2001), 'Parental disruption and the labour market performance of children when they reach adulthood', *Journal of Population Economics*, **14**, 137–72.
- Furstenberg, F.F. and K.E. Kiernan (2001), 'Delayed parental divorce: how much do children benefit?', *Journal of Marriage and Family*, **63**, 446–57.
- Goisis, A., D.C. Schneider and M. Myrskylä (2017), 'The reversing association between advanced maternal age and child cognitive ability: evidence from three UK birth cohorts', *International Journal of Epidemiology*, **46** (3), 850–9.
- Golding, J., J. Henriques and P. Thomas (1986), 'Unmarried at delivery. II. Perinatal morbidity and mortality', *Early Human Development*, **14** (3–4), 217–27.
- Golsteyn, B.H.H. and C.A.J. Magnée (2017), 'Does birth spacing affect personality?', *Journal of Economic Psychology*, **60**, 92–108.
- Goodman, A., G. Kaplan and I. Walker (2004), 'Understanding the effects of early motherhood in Britain: the effects on mothers'. <https://www.ifs.org.uk/docs/teenage.pdf> (accessed 8 March 2020).
- Goodman, A., R. Joyce and J.P. Smith (2011), 'The long shadow cast by childhood physical and mental problems on adult life', *Proceedings of the National Academy of Sciences of the United States of America*, **108**, 6032–37.
- Graham Helen, M. (2012), *Capable of Change?: The Impact of Policy on the Reconciliation of Paid Work and Care in Couples with Children*. Edinburgh: University of Edinburgh Press. <https://era.ed.ac.uk/handle/1842/6418> (accessed 9 March 2020).
- Hansen, K., D. Hawkes and H. Joshi (2009), 'The timing of motherhood, mothers' employment and child outcomes'. In J. Stillwell, E. Coast and D. Kneale (eds), *Fertility, Living Arrangements, Care and Mobility*. Dordrecht: Springer, pp. 59–80.
- Harper, B. (2000), 'Beauty, stature and the labour market: a British cohort study', *Oxford Bulletin of Economics and Statistics*, **62**, 771–800.
- Hertzman, C., C. Power, S. Matthews and O. Manor (2001), 'Using an interactive framework of society and lifecourse to explain self-rated health in early adulthood', *Social Science & Medicine*, **53** (12), 1575–85.
- Hobcraft, J. (2008), 'The timing and partnership context of becoming a parent: cohort and gender commonalities and differences in childhood antecedents', *Demographic Research*, **19**, 1281–322.

- Hobcraft, J. and K. Kiernan (2001), 'Childhood poverty, early motherhood and adult social exclusion', *British Journal of Sociology*, **52** (3), 495–517.
- Holdsworth, C. (2000), 'Leaving home in Britain and Spain', *European Sociological Review*, **16** (2), 201–22.
- Hope, S., C. Power and B. Rodgers (1999), 'Does financial hardship account for elevated psychological distress in lone mothers?', *Social Science & Medicine*, **49** (12), 1637–49.
- Jones, G. (1987), 'Leaving the parental home: an analysis of early housing careers', *Journal of Social Policy*, **16** (1), 49–74.
- Joshi, H. (1985), 'Motherhood and employment: change and continuity in post-war Britain. Measuring socio-demographic change'. OPCS, Occasional Paper No. 34, 70–87.
- Joshi, H. and P. Paci (1998), *Unequal Pay for Women and Men: Evidence from the British Birth Cohort Studies*. With Gerald Makepeace and Jane Waldfogel. Cambridge, MA and London: MIT Press.
- Joshi, H., S. Macran and S. Dex (1996), 'Employment after childbearing and women's subsequent labour force participation: evidence from the British 1958 birth cohort', *Journal of Population Economics*, **9** (3), 325–48.
- Joshi, H., P. Paci and J. Waldfogel (1999), 'The wages of motherhood: better or worse?', *Cambridge Journal of Economics*, **23** (5), 543–64.
- Kaplan, B.A. and C.G. Mascie-Taylor (1992), 'Mother's age, birth order and health status in a British national sample', *Medical Anthropology*, **13** (4), 353–67.
- Kelly, E. (2011), 'The scourge of Asian Flu in utero exposure to pandemic influenza and the development of a cohort of British children', *Journal of Human Resources*, **46** (4), 669–94.
- Kennedy, D. (2017), *Jamaica's Policy for the School Reintegration of School-Age Mothers: How Are We Doing and Where Do We Need to Go?* Washington, DC: Center for Universal Education, The Brookings Institution.
- Kiernan, K.E. (1992), 'The impact of family disruption in childhood on transitions made in young-adult life', *Population Studies – a Journal of Demography*, **46** (2), 213–34.
- Kiernan, K.E. (1996), 'Lone-motherhood, employment and outcomes for children', *International Journal of Law Policy and the Family*, **10** (3), 233–49.
- Kiernan, K.E. (1997), 'The legacy of parental divorce: social, economic and demographic experiences in adulthood'. CASE Paper 1, Centre for Analysis of Social Exclusion, LSE.
- Kiernan, K.E. and A.J. Cherlin (1999), 'Parental divorce and partnership dissolution in adulthood: evidence from a British cohort study', *Population Studies*, **53**, 39–48.
- Kiernan, K. and G. Mueller (1998), *The Divorced and Who Divorces*. London School of Economics, Centre for Analysis of Social Exclusion.
- Kiernan, K.E.C.A.S., Toyota International Centres of Economics & Related Disciplines (1995), 'Transition to parenthood: young mothers, young fathers: associated factors and later life experiences'. London School of Economics, The Toyota Centre, Suntory and Toyota International Centres for Economics and Related Disciplines, 54pLG EnglishST Welfare State Programme, Discussion Paper, 09694463: WSP/1.
- Kneale, D. (2010), 'Pushy parents make for later grandparents: parents' educational expectations and their children's fertility among two British cohorts', *Longitudinal and Life Course Studies*, **1** (2), 137–54.
- Kneale, D. and H. Joshi (2008), 'Postponement and childlessness: evidence from two British cohorts', *Demographic Research*, **19**, 1935–68.
- Kneale, D., A. Fletcher, R. Wiggins and C. Bonell (2013), 'Distribution and determinants of risk of teenage motherhood in three British longitudinal studies: implications for targeted prevention interventions', *Journal of Epidemiology and Community Health*, **67** (1), 48–55.
- Krzyzanowska, M., C.G.N. Mascie-Taylor and J.C. Thalabard (2015), 'Is human mating for height associated with fertility? Results from a British national cohort study', *American Journal of Human Biology*, **27**, 553–63.
- Lacey, R.E., M. Bartley, H. Pikhart, M. Stafford and N. Cable (2014), 'Parental separation and adult psychological distress: an investigation of material and relational mechanisms', *BMC Public Health*, **14**, 272.
- Lacey, R.E., A. Sacker, S. Bell et al. (2017), 'Work-family life courses and BMI trajectories in three British birth cohorts', *International Journal of Obesity*, **41**, 332–39.



- Lau, C.Q. (2012), 'The stability of same-sex cohabitation, different-sex cohabitation, and marriage', *Journal of Marriage and Family*, **74** (5), 973–88.
- Lee, J.H., R. Sadana and Commission on Social Determinants of Health (2011), 'Improving equity in health by addressing social determinants'. Geneva: World Health Organization. <https://apps.who.int/iris/handle/10665/44793>, last accessed 31 October 2019.
- Macran, S., H. Joshi and S. Dex (1996), 'Employment after childbearing: a survival analysis', *Work, Employment and Society*, **10**, 273–96.
- Mandemakers, J.J. and M. Kalmijn (2014), 'Do mother's and father's education condition the impact of parental divorce on child well-being?', *Social Science Research*, **44**, 187–99.
- Mandemakers, J.J., C.W.S. Monden and M. Kalmijn (2010), 'Are the effects of divorce on psychological distress modified by family background?', *Advances in Life Course Research*, **15**, 27–40.
- Manlove, J.S. (1993), *The Social Reproduction of Teenage Motherhood in Great Britain*. Durham, NC: Duke University Press.
- Manlove, J. (1997), 'Early motherhood in an intergenerational perspective: the experiences of a British cohort', *Journal of Marriage and the Family*, **59**(2), 263–79.
- McDonough, P., D. Worts, C. Booker, A. McMunn and A. Sacker (2015), 'Cumulative disadvantage, employment-marriage, and health inequalities among American and British mothers', *Advances in Life Course Research*, **25**, 49–66.
- McMunn, A., R. Lacey, D. Worts et al. (2015), 'De-standardization and gender convergence in work–family life courses in Great Britain: a multi-channel sequence analysis', *Advances in Life Course Research*, **26**, 60–75.
- Montgomery, S.M., A. Ehlin and A. Sacker (2006), 'Breast feeding and resilience against psychosocial stress', *Archives of Disease in Child*, **91** (12), 990–4.
- Morgan, Z., T. Brugha, T. Fryers and S. Stewart-Brown (2012), 'The effects of parent-child relationships on later life mental health status in two national birth cohorts', *Social Psychiatry and Psychiatric Epidemiology*, **47** (11), 1707–15.
- National Research Council (NRC) (2004), *Critical Perspectives on Racial and Ethnic Differences in Health in Late Life*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/11086>.
- Nettle, D. (2002), 'Height and reproductive success in a cohort of British men', *Human Nature*, **13** (4), 473–91.
- Nettle, D., D.A. Coall and T.E. Dickins (2010), 'Birthweight and paternal involvement predict early reproduction in British women: evidence from the National Child Development Study', *American Journal of Human Biology*, **22**, 172–9.
- Nettle, D., D.A. Coall and T.E. Dickins (2011), 'Early-life conditions and age at first pregnancy in British women', *Proceedings of the Royal Society B: Biological Sciences*, **278**, 1721–7.
- Nettle, D., T.E. Dickins, D.A. Coall and D. de Mornay (2013), 'Patterns of physical and psychological development in future teenage mothers', *Evolution, Medicine and Public Health*, **2013**, 187–96.
- O'Connor, M.L. (1997), 'Women who were born to teenage mothers have nearly double the risk of early childbearing', *Family Planning Perspectives*, **29**, 243–5.
- Perelli-Harris, B. and M. Styrc (2018), 'Mental well-being differences in cohabitation and marriage: the role of childhood selection', *Journal of Marriage and the Family*, **80** (1), 239–55.
- Ploubidis, G.B., R.J. Silverwood, B. De Stavola and E. Grundy (2015), 'Life-course partnership status and biomarkers in midlife: evidence from the 1958 British Birth Cohort', *American Journal of Public Health*, **105** (8), 1596–603.
- Pollock, J.I. (1996), 'Mature maternity: long term associations in first children born to older mothers in 1970 in the UK', *Journal of Epidemiology and Community Health*, **50** (4), 429–35.
- Power, C., S. Matthews and O. Manor (1998), 'Inequalities in self-rated health: explanations from different stages of life', *Lancet*, **351**, 1009–14.
- Prowse, V.L. (2006), *Part-time Work and Occupational Attainment amongst a Cohort of British Women*. St. Louis: Federal Reserve Bank of St. Louis.
- Ram, K. (2017), 'rAltmetric: retrieves altmetrics data for any published paper from altmetrics.com. R package version 0.7', <http://CRAN.R-project.org/package=rAltmetric>, last accessed 31 October 2019.
- Rodgers, B., C. Power and S. Hope (1997), 'Parental divorce and adult psychological distress: evidence from a national birth cohort: a research note', *Journal of Child Psychology and Psychiatry and Allied Disciplines*, **38**, 867–72.

- Rohrer, J.M., B. Egloff and S.C. Schmukle (2015), 'Examining the effects of birth order on personality', *Proceedings of the National Academy of Sciences*, **112** (46), 14224–9.
- Ross, A., I. Schoon, P. Martin and A. Sacker (2009), 'Family and nonfamily role configurations in two British cohorts', *Journal of Marriage and Family*, **71** (1), 1–14.
- Sacker, A. and N. Cable (2010), 'Transitions to adulthood and psychological distress in young adults born 12 years apart: constraints on and resources for development', *Psychological Medicine*, **40** (2), 301–13.
- Schoon, I., A. Ross and P. Martin (2009), 'Sequences, patterns, and variations in the assumption of work and family-related roles: evidence from two British birth cohorts'. In I. Schoon and R.K. Silbereisen (eds), *Transitions from School to Work: Globalization, Individualization, and Patterns of Diversity*. New York: Cambridge University Press, pp. 219–42.
- Schoon, I., M.K.D. Chen and J. Jager (2012), 'Becoming adults in Britain: lifestyles and wellbeing in times of social change', *Longitudinal and Life Course Studies*, **3** (2), 173–89.
- Sheppard, P. and R. Sear (2012), 'Father absence predicts age at sexual maturity and reproductive timing in British men', *Biology Letters*, **8** (2), 237–40.
- Sigle-Rushton, W. (2005), 'Young fatherhood and subsequent disadvantage in the United Kingdom', *Journal of Marriage and Family*, **67** (3), 735–53.
- Sigle-Rushton, W., J. Hobcraft and K. Kiernan (2005), 'Parental divorce and subsequent disadvantage: a cross-cohort comparison', *Demography*, **42**, 427–46.
- Simpson, R. (2009), 'Childbearing on hold: delayed childbearing and childlessness in Britain'. Centre for Research on Families and Relationships Briefing No. 29. Edinburgh, UK: University of Edinburgh.
- Smeaton, D. (2016), 'Work return rates after childbirth in the UK – trends, determinants and implications: a comparison of cohorts born in 1958 and 1970', *Work, Employment and Society*, **20** (1), 5–25.
- Social Exclusion Unit (1999), 'Teenage pregnancy: report by the Social Exclusion Unit', London: Stationery Office.
- Sohn, B. (2004), 'The long-term effects of parental divorce or separation on childhood, adolescent and adult psychosocial health in UK', *International Journal of Human Ecology*, **5**, 51–9.
- Stansfeld, S.A., C. Clark, M. Smuk, C. Power, T. Davidson and B. Rodgers (2017), 'Childhood adversity and midlife suicidal ideation', *Psychological Medicine*, **47**, 327–40.
- Steele, F., C. Kallis, H. Goldstein and H. Joshi (2005), 'The relationship between childbearing and transitions from marriage and cohabitation in Britain', *Demography*, **42**, 647–73.
- Steele, F., H. Joshi, C. Kallis and H. Goldstein (2006a), 'Changing compatibility of cohabitation and childbearing between young British women born in 1958 and 1970', *Population Studies (Cambridge)*, **60** (2), 137–52.
- Steele, F., C. Kallis and H. Joshi (2006b), 'The formation and outcomes of cohabiting and marital partnerships in early adulthood: the role of previous partnership experience', *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, **169** (4), 757–79.
- Stewart-Brown, S., T.J. Peters, J. Golding and P. Bijur (1986), 'Case definition in childhood accident studies: a vital factor in determining results', *International Journal of Epidemiology*, **15** (3), 352–9.
- Stewart-Brown, S.L., L. Fletcher and M.E. Wadsworth (2005), 'Parent-child relationships and health problems in adulthood in three UK national birth cohort studies', *European Journal of Public Health*, **15** (6), 640–6.
- Thomas, J.R. and R.S. Högnäs (2015), 'The effect of parental divorce on the health of adult children', *Longitudinal and Life Course Studies*, **6**, 279–302.
- Thompson, A., C. Hollis and D.R. Dagger (2003), 'Authoritarian parenting attitudes as a risk for conduct problems: results from a British national cohort study', *European Child and Adolescent Psychiatry*, **12** (2), 84–91.
- Thorpe, K., J. Golding, I. MacGillivray and R. Greenwood (1991), 'Comparison of prevalence of depression in mothers of twins and mothers of singletons', *BMJ*, **302** (6781), 875–8.
- Viitanen, T.K. (2004), *The Impact of Children on Female Earnings in Britain*. St. Louis: Federal Reserve Bank of St. Louis.
- Viitanen, T. (2014), 'The motherhood wage gap in the UK over the life cycle', *Review of Economics of the Household*, **12**, 259–76. Villadsen, A., D. Kneale and C. Stansfield (forthcoming), 'Review of data and scientific impact of the National Child Development Study and the British Cohort Study 1970', London: Centre for Longitudinal Studies/EPPI-Centre.

- Viner, R.M. and T.J. Cole (2005), 'Adult socioeconomic, educational, social, and psychological outcomes of childhood obesity: a national birth cohort study', *BMJ*, **330** (7504), 1354.
- Vlachantoni, A., M. Evandrou, J. Falkingham and M. Gomez-Leon (2019), 'Caught in the middle in mid-life: provision of care across multiple generations', *Ageing & Society*, 1–21.
- Wadsworth, J., I. Burnell, B. Taylor and N. Butler (1983), 'Family type and accidents in preschool children', *Journal of Epidemiology and Community Health*, **37** (2), 100–4.
- Wadsworth, J., B. Taylor, A. Osborn and N. Butler (1984), 'Teenage mothering: child development at five years', *Journal of Child Psychology and Psychiatry*, **25** (2), 305–13.
- Wadsworth, M.E.J. and M. Maclean (1986), 'Parents' divorce and children's life chances', *Children and Youth Services Review*, **8**, 145–59.
- Waldfogel, J. (1994), *Women Working for Less: Family Status and Women's Pay in the United States and United Kingdom*. Cambridge, MA: Harvard University Press.
- Waldfogel, J. (1995), 'The price of motherhood: family status and women's pay in a young British cohort', *Oxford Economic Papers*, **47** (4), 584–610.
- Waldfogel, J. (1998), 'The family gap for young women in the United States and Britain: can maternity leave make a difference?', *Journal of Labor Economics*, **16** (3), 505–45.
- Waldfogel, J., Suntory-Toyota International Centre of Economics and LSE (1993), *Women Working for Less: A Longitudinal Analysis of the Family Gap*. London: Suntory-Toyota International Centre of Economics & Related Disciplines, London School of Economics & Political Science.
- Ward, C. and A. Dale (2008), 'The impact of early life-course transitions on equality at work and home', *The Sociological Review*, **40** (3), 509–32.
- Waynforth, D. (2012a), 'Grandparental investment and reproductive decisions in the longitudinal 1970 British cohort study', *Proceedings of the Royal Society B: Biological Sciences*, **279** (1731), 1155–60.
- Waynforth, D. (2012b), 'Life-history theory, chronic childhood illness and the timing of first reproduction in a British birth cohort', *Proceedings of the Royal Society B: Biological Sciences*, **279** (1740), 2998–3002.

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## 8. Understanding families' lives across the lifecourse: the value of panel studies.

### *Understanding Society: The UK Household Longitudinal Study*

*Michaela Benzeval*

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### 8.1 INTRODUCTION

The lifecourse paradigm is now the cornerstone of much research across the social and health sciences and draws on longitudinal studies as its foundation (Mayer, 2009). At its centre is the study 'of age-graded patterns that are embedded in social institutions and history' (Elder et al., 2003, p. 4). Originating in sociology, a range of other disciplines – psychology, economics, demography, epidemiology, anthropology, biology, history, geography – have adopted key dimensions of the lifecourse approach into their fields (Mayer, 2009; Bernardi et al., 2019). Different disciplines place more or less emphasis on different aspects of the lifecourse framework. In economics, the key focus is the way in which people plan their lives across the life cycle, for example, smoothing expenditure by saving in periods of high income and dis-saving during times of low income (Browning et al., 2016). In epidemiology, the central emphasis is on the pathways and critical periods between early life circumstances and later life health (Kuh and Ben-Shlomo, 2004). In sociology, a key focus is on the family and social structures within time and place in which individuals make decisions about their lives (Elder et al., 2003). In demography, researchers investigate birth and death, the start and end of the lifecourse, and key dynamics processes, and turning points in between – fertility, migration and marriage – in context in time, whether it be age, cohort or period (Uhlenberg, 1996). In psychology, researchers are concerned with the internal development of psychological functioning and its adaptation as individuals age (Diewald and Mayer, 2009). In geography, there is an emphasis on the role of space, time and place in shaping people's trajectories with a particular emphasis on migration (Bailey, 2009). While each discipline has a particular lens on lifecourse research, what is more apparent is the commonalities across disciplines and as a result it is perhaps *the* key framework employed in interdisciplinary research (Mayer, 2009; Bernardi et al., 2019). Given all of this, it is not surprising that household panel studies play a key role in such research within and across disciplines (Brüderl et al., 2019; Giesselmann et al., 2019).

This chapter outlines themes within lifecourse research that have been conducted with *Understanding Society: The UK Household Longitudinal Study*<sup>1</sup> and its predecessor, the *British Household Panel Survey* (BHPS), as a way of highlighting the value of panel studies. It begins with a brief description of *Understanding Society* and its features for lifecourse research. In 2019, over 350 papers had been identified and tagged as having a lifecourse perspective. A selection of these papers is highlighted below to illustrate lifecourse research that has been conducted with the Study. I considered employing different articulations of the principles of the lifecourse framework to structure the chapter. Early articulations of the life-

course framework were based on five broad principles: lifespan development; human agency; historical time and geographic place; timing of decisions; and linked lives (Elder et al., 2003). While these are still central to lifecourse ideas today, consideration of how they fit together and interact has come to the fore. For example, Bernardi et al. (2019) propose a three-dimensional lifecourse cube of *domains, levels and time* as a framework for considering how the three dimensions interact. While Brüderl et al. (2019) suggest that a lifecourse paradigm considers individuals' lives as 'multilevel, multidimensional, linked, and unfolding over time' (p. 1). The latter is the clearest framework within which to group panel study research, and is employed below, although multidimensional topics cut across the other themes and hence are illustrated within them all.

## 8.2 UNDERSTANDING SOCIETY: KEY FEATURES

The central feature of *Understanding Society*, and BHPS before it, is that it is based on *households*, which creates valuable opportunities to investigate linked lives: parents and children, siblings, the people someone lives with or wider family connections. As well as asking questions about family networks, by 2019 the Study had over 18,500 two-generation and 2,700 three-generation families across households, enabling *inter-generation* relationships and transfers to be explored.

*Understanding Society* follows people of all ages so that researchers can study the *whole lifespan* at the same point in time. It is also large enough to have approximately 10,000 people for each *birth cohort* by decade from the 1940s (plus smaller numbers of older cohorts) with a further 17,000 children born into or joining the Study in the 19 years since 2000 (Pelikh, 2019). Cross-cohort research within the UK and internationally is a growing research dimension drawing on the Study data (Benzeval, 2019).

*Understanding Society* was designed to have a large sample size so that different *sub populations* could be studied over time (Borkowska, 2019). The lifecourses of immigrants and ethnic minority groups are of particular scientific and policy interest. Two boost samples have been included in the Study. The first sample at wave 1 (2009–10) focused on ensuring that there were 1,000 adults from the five main ethnic groups in the UK (Indian, Pakistani, Bangladeshi, Black Caribbean and Black African) (Berthoud et al., 2009). The second at wave 6 (2014–15) re-boosted these five groups and additionally sampled recent immigrants (Lynn et al., 2018).

Data is collected on everyone in the household *annually*. Including the BHPS sample, *Understanding Society* provides data from 1991, which is 27 waves at the time of writing (University of Essex et al., 2019). For children aged 1, 3, 5 and 8 years of age, information is gathered from the primary carer. Children aged 10–15 are asked to complete a short self-complete questionnaire, and everyone aged 16 and over is invited to complete an adult interview. The Study is *multi-domain* asking a set of core questions annually – for example, on family, employment, health, education and income – and rotating modules to cover other topics – such as politics, health behaviours, social networks, expectations, preferences and attitudes.<sup>2</sup> We have also collected full event histories for employment, fertility and partnerships and conducted one-off data collections (so far) on personality, cognition, measured health and biological samples, enabling us to create and share biomarker data (Benzeval et al., 2014).

Data is collected continuously throughout the year, with the same random sample being issued to field each quarter, meaning the *temporal impacts* can be studied. For example, researchers have examined the impact on wellbeing of: the weather (Buscha, 2016); one-off events such as the European Union (EU) referendum (Powdthavee et al., 2019); policy changes (for example, regeneration in Northern Ireland, Mohan et al., 2017); and, cyclical periods such as the Great Recession in 2007–08 (Bayliss et al., 2017).

The Study is *geocoded* enabling individuals' lives to be located within their neighbourhoods and broader geographies, and we follow individuals and households as they move so that migration patterns and their causes and consequences can be studied. The Study is large enough so that regional analyses can be undertaken and in particular research within each of the devolved nations is feasible, enabling their diverging social, economic and policy contexts to be explored for useful policy learning (for example, Thomas et al., 2016 investigate the introduction of plastic bag charge on environmental behaviour). Similarly, *international comparative research* is undertaken comparing the UK with a range of other countries through individuals' own efforts to harmonise data and international collaborative endeavours such as the Cross National Equivalence File (CNEF).<sup>3</sup>

The benefits of such features for lifecourse research are highlighted below. First, I describe research which investigates changes in people's lives over time; then the impact of linked lives, and finally how different contexts matter for people's lives.

### 8.3 UNFOLDING OVER TIME (THE DYNAMICS OF EVENTS, BEHAVIOURS AND OUTCOMES)

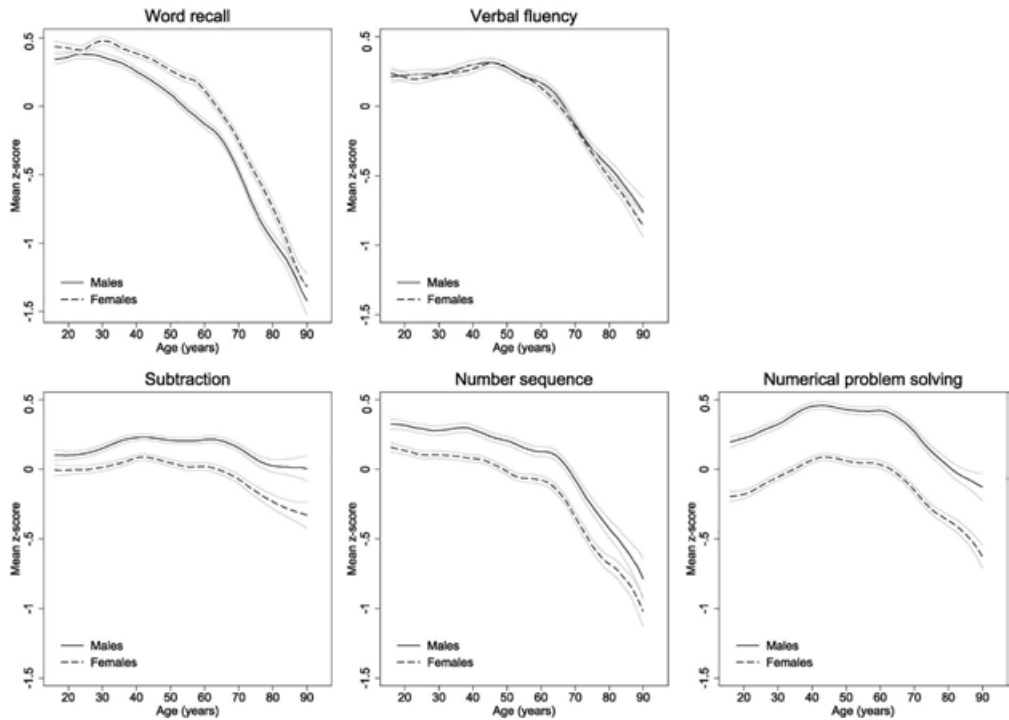
The key underpinning principle of lifecourse research is that it takes a long-term perspective. The annual data provide a long (currently 27 years) window on people's lives and the Study includes people of all ages, enabling research on the full lifespan, at specific life stages and on multiple birth cohorts, at the same points in history and over time.

#### 8.3.1 Understanding the Full Lifespan

For many outcomes it is rare for the full adult lifespan to be measured in the same way at the same time (Pell and Cohort Strategic Review Subgroup, 2014). However, *Understanding Society* does this and hence provides key insights into the development and decline of different functions as people age. To illustrate the value of the full lifespan, Figure 8.1 shows different measures of cognition for males and females by age. As can be seen, there is considerable variation in the age at which different dimensions of cognition peak, how long they remain stable, and when and how steeply they decline. For example, while word recall peaks around 30 years and then declines steeply, subtraction remains relatively stable throughout adult life; numeric problem solving peaks in people's 30s and declines from the mid-60s.

Coulter and Hu (2017) used the large sample size of *Understanding Society* to investigate 'living apart together' (LATs) and identified four distinct groups at different life stages.

- traditional LATS – young adults 'going steady' but still living with their parents
- independent adults who live alone; a third have previously been married and a minority have children



Source: Whitley et al. (2016).

Figure 8.1 *Cognitive function over the lifespan for men and women: Understanding Society wave 3*

- single parents, in particular mothers, generally never married but also divorced and widowed
- senior LATS – over 50s, previously married, mainly men, a few living with parents or children.

In epidemiology, Pistoll and Cummins (2019), using *Understanding Society*, found strong age patterns of active travel, with younger people more likely to take up active travel than older groups, but older groups were less likely to stop these behaviours, once started. This suggests that young adulthood is a critical period for establishing long-term transport behaviours and hence a possible intervention point to encourage active travel. In political science, Fraile and Sánchez-Vitores (2019) use BHPS to show that at age 15, there is already a gender gap of 20 percentage points in the probability of respondents reporting being politically interested. Over the next ten years this gap grows reaching 30 percentage points at age 25 where it then stabilises over the rest of the lifecourse.

In researching age differences, it is important to consider cohort and period effects. For example, Browning et al. (2016) used 12 years of BHPS data to investigate consumption of household durables. In cross-sectional analyses, they find decreasing expenditures for appliances and consumer electronics with age. However, longitudinal analyses showed this decline was explained by cohort effects, and in fact consumption of electronic goods increases

with age, while consumption of other durables was relatively flat. Reeves (2014) undertook a longitudinal analysis of cultural consumption by age. Using latent class analysis nine classes are identified that have strong age effects: going to the cinema and theatre is most common at younger ages, do-it-yourself in middle age, and volunteering at older ages. Period effects are weak and there are only small cohort effects, the main one being that younger cohorts are much more likely to be in the class that engages in 'all' cultural activities. Bell (2014) uses BHPS data from 1991 to 2008 to investigate the lifecourse trajectory of mental health controlling for cohort effects. Mental health improves throughout the lifecourse although more slowly in middle age, before worsening in old age. Again period effects are weak; however, there is significant variation between cohorts. People born 1965–74, and to a lesser extent 1930–34, had significantly better mental health, and those born in 1940–44 had worse mental health than the overall trend.

As well as research considering the full lifespan, *Understanding Society* is often employed to examine key life stages and transitions between them.

### 8.3.2 Childhood

A key issue in lifecourse research is the early life development of later life behaviours and outcomes. *Understanding Society* has detailed data on family life pre-conception and early in children's lives. This has been used to investigate early life influences on later life. For example, Green et al. (2018) employ a structured lifecourse approach from epidemiology (Mishra et al., 2008) in BHPS to compare competing hypotheses about the importance of the timing and duration of childhood exposure to poverty in predicting young adult health and behaviours. They measure poverty at ages 0–5, 5–10, 10–15 to explore critical periods and found that persistent poverty during childhood was most strongly associated with young adult health and smoking, but no childhood poverty measure was related to mental health.

A range of studies investigate life in adolescence using BHPS and *Understanding Society* data collected from children at the age of 10. For example, Green et al. (2016) investigate the development of smoking during adolescence between 1994 and 2008. They found that during this period rates of uptake and habit formation reduced, and quitting increased, but socioeconomic inequalities in smoking remained. Given the large sample size, *Understanding Society* can also be used to investigate small sub populations. For example, Brown et al. (2019) compare the mental health and aspirations of adopted children with other (matched) children of the same ages. They find that adopted children are more likely to want to seek full-time employment when they leave school, and have poorer mental health than other children. Berrington et al. (2016) investigated aspirations for higher levels of education among teenagers born in the late 1990s and early 2000s, using the large sample sizes and ethnic minority boost to focus on ethnic differences. Aspirations are highest for Black Caribbean, Black African, Indian and Bangladeshi compared to White teenagers, especially boys from workless and low occupational households. Parental attitudes towards education, levels of parental engagement with their children's schoolwork and the quality of the parent–child relationship were all key mediating factors.

A key advantage of longitudinal data is that it enables changes within individuals to be investigated rather than comparing different people at the same point in time (as in cross-sectional analysis), which provides more rigorous evidence for policy learning. For example, research based on cross-sectional data suggests that there is a negative association between adolescents'



use of social media and wellbeing. Orben et al. (2019) used longitudinal data to investigate the reciprocal association between social media and life satisfaction over eight waves. They found few significant prospective associations for males, and very small effects of social media on subsequent life satisfaction for females. Life satisfaction, however, was associated with subsequent social media use for both genders.

### 8.3.3 Youth–Adult Transition

Significant research has focused on the youth–adult transition. For example, Schoon and Lyons-Amos (2016) investigate different pathways from adolescent to adult roles. Using sequence analysis they identify five distinct pathways among cohorts born in 1980–84 and 1985–89:

- those who participate in extended education
- continuous employment directly after completing compulsory schooling at age 16
- continuous employment after some further education
- prolonged experience of unemployment
- prolonged experience of inactivity.

The later born cohort encountered more problematic transitions, in particular persistent unemployment, perhaps reflecting the difficulties of entering the labour market during an economic downturn. The older cohort, born only four years earlier, were protected from the downturn perhaps because they had already acquired more skills and experience before the economic crisis began.

Pelikh and Kulu (2018) investigate when young people leave their family home, comparing cohorts born in the 1980s and 1990s. They find that the youngest cohorts left home later than earlier ones and women left home earlier than men. Young people from advantaged family backgrounds moved further and more often than their disadvantaged counterparts. Bayrakdar and Coulter (2018) investigate the role of parents in enabling young people to leave the family home. They found that parents' education was a factor in young people moving out for reasons other than cohabitation. When both biological parents were present, and owned their own home, young people were less likely to move into their own home or shared accommodation. The likelihood of leaving home (especially to form partnerships or live alone/share) is reduced in areas with high house prices, high unemployment or greater population density. Examining moves in the opposite direction, Stone et al. (2014) use BHPS to investigate young people returning to the family home, the so-called 'boomerang' effect. They find that young people are more likely to return home, particularly in their 20s, when they leave higher education, move into economic inactivity or separate from a partner – for men especially if they are a parent, with the opposite the case for women.

### 8.3.4 Trajectories in Adulthood

Much research has been carried out using *Understanding Society* data to investigate trajectories in key life domains and behaviours through adulthood. A few examples are given here.

- Fisher and Low (2016) use 18 waves of BHPS to investigate income change following a divorce for men and women. They demonstrate that women in the highest income house-

hold pre-divorce suffer the biggest and most persistent falls in income after divorce. Men tend to increase their living standards following a divorce. Low income men pre-divorce often move in with extended families and, as a result, their income levels recover very rapidly.

- Hick and Lanua (2018) investigate in-work poverty transitions. For most people, in-work poverty is a temporary phenomenon; however, those who experience in-work poverty are also likely to have unstable working patterns and are far more likely to become workless over the four waves studied than others in employment.
- Roberts and Taylor (2016) investigate the joint commuting and employment decisions of couples based on local labour market conditions. They find that poorer local labour market conditions are associated with longer commuting times, especially for men, but that the findings vary by the relative male/female earnings ratio, tenure, model of travel and employment type.
- Lacey et al. (2019) explore the association between long-term caring and mental health. They find no association for men, but women in long-term or intermittent caring roles had higher level of psychological distress at the start of caring, with little subsequent change in their mental health over time.

Further research on trajectories within the context of linked lives is described below.

### **8.3.5 Moving into Older Ages**

While *Understanding Society* has been used extensively to investigate youth–adult transitions, transitions at older ages have been researched less (see also Chapter 20 in this volume). Demey et al. (2013) investigate pathways into living alone in mid-life. They found that partnership dissolution was the main trajectory into living alone although a small proportion of men had never had a co-residential partnership. Both men and women living alone had poorer socioeconomic status than those with partners. Women were more likely than men to have non-residential children. Corna and Sacker (2013) use life histories in BHPS to investigate how different combinations of work and family life during working age result in different economic and health circumstances at age 65 for adults born between 1927 and 1940. They identify five latent classes:

- career-focused females
- career-focused males
- career transition
- family carers and part-time workers
- workers with families.

Better economic resources and mental health at age 65 were more common among those life pathways describing predominantly male experiences, with women in the family care and part work pathway having the poorest economic circumstances and those in the career transition group having the poorest mental health. Another paper which investigated differences in resources on entering retirement considered the pension arrangements of different ethnic groups (Vlachantoni et al., 2017). The authors found that some ethnic minority groups, especially men, were more likely to receive pension credits and less likely to have an occupational or private pension. Returning to paid employment after retirement is an increasing

phenomenon (Platts et al., 2019). The study finds that approximately 25 per cent of participants re-entered paid employment within five years of retirement. ‘Unretirement’ was more common among men, those with more education, better health, who owned their own home or whose partner was still working. Finally, Vlachantoni et al. (2016) investigate transitions into sheltered accommodation among older people in England and Wales between 1993 and 2008 and found that those over 75, renting their homes, who were recent frequent users of public support and health services were more likely to move to sheltered housing than others.

## 8.4 LINKED LIVES

As a household panel study, *Understanding Society* allows complex family interrelations within and across households to be investigated. Such analyses might use data collected from one family member about the lives of their kin, from multiple family members in the same analysis or undertake joint modelling.

One area of family research in *Understanding Society* is: the role of siblings during adolescence on the experience of bullying (Tippett and Wolke, 2015); education aspirations (Bu, 2016) and outcomes (Grätz et al., 2019); life satisfaction (Yucel and Downey, 2015); and wellbeing (Peasgood et al., 2016). For example, Peasgood et al. (2016) investigated the impact of having a sibling with attention deficit hyperactivity disorder (ADHD) on children’s wellbeing. They found that children with a sibling with ADHD had lower life and family satisfaction and higher conduct problems, as well as higher levels of sibling bullying in the family. Bu (2016) employed multilevel modelling using data on multiple children in the same families rather than comparing experiences across families of different sibling compositions. She found that firstborn, compared to other, children had higher educational aspirations and that such aspirations played a significant role in determining later educational outcomes. Grätz and colleagues (2019) compared sibling correlations on a range of measures – cognitive skills, school grades and educational attainment – across countries. They found, for example, that the UK has lower sibling correlations on education attainment than any of the other countries included in their research.

The most common area of research on ‘linked lives’ investigates the impact of parents’ circumstances and behaviours on their children’s behaviours and outcomes. For example, the role of parental employment experiences has been shown to have different influences on children’s aspirations and outcomes. Zwysen (2015) demonstrates that young adults whose fathers did not work when they were adolescents were less likely to be employed than those whose fathers worked. For those young adults in work, the father’s worklessness was not associated with lower pay or less secure contracts, but was associated with lower job satisfaction. The ethnic boost samples enable researchers to investigate these kinds of intergenerational associations among specific ethnic groups. Zuccotti and O’Reilly (2019) similarly find that having workless parents means young adults are more likely to be NEETs (not in employment, education or training). However, having workless parents is much less detrimental for second-generation Indian and African men, and for second-generation Bangladeshi men and women, than for White British individuals.

Other aspects of intergenerational inheritance that have been researched include savings behaviour, gender attitudes and partisanship. Brown and Taylor (2016) found that children’s saving habits were associated with parents’ optimism about the family’s finances in the

future, but not their parents' own saving habits. Saving in childhood was associated with the children's saving behaviour as adults. Platt and Polavieja (2016) investigate intergenerational inheritance of attitudes to gender roles and find that both parental attitudes and behaviours are crucial in the formation of children's attitudes, especially when they operate through same-sex dyads. Following up a subset of children into adulthood showed that attitudes formed in childhood have significant and lasting consequences for adults' attitudes and behaviours. A number of research groups have used *Understanding Society* to investigate the intergenerational transmission of political attitudes and partisanship. Martin and Mellon (2018) investigated partisanship among children aged 10–15, and found that ethnic minority children had much higher rates of partisanship than their White UK counterparts. However, through modelling the different factors that might have led to this, the research concludes that the key explanatory factor was higher levels of partisanship in their parents that were transmitted to younger generations. Fox et al. (2019) also explored the role of family in developing Eurosceptic political views. Using data based on the EU referendum question carried out in 2016 and attitudes to the EU measured in 2006, they found that parental attitudes in 2006 were associated with their children's views on the EU referendum as adults.

The impact of children on parental behaviours and attitudes is a growing area of research on 'linked lives'. For example, Thomas et al. (2018) investigated whether having a child changed parental environmental behaviour – the legacy hypothesis – and found that parents reduced their pro-environmental behaviours after the child's birth. They suggest that perhaps the immediate wellbeing of the child took precedence over behaviours designed to protect them in the longer term. However, such analysis relies on data collected from the parents. In contrast, Webb et al. (2017) investigate reciprocal association between parents' and children's wellbeing. Using data on triads (adolescent child, mother and father) over time showed that parental mental distress predicts the unhappiness of girls but not that of boys, however, the unhappiness of adolescents did not predict their parents' mental distress.

There is a significant literature on the role of being married or cohabiting over time and household surveys enable researchers to investigate reciprocal relationships. Webb et al.'s (2017) paper noted above, for example, shows that fathers' psychological distress predicts subsequent distress among mothers, but mothers' distress only predicts distress among fathers with female adolescent children. McMunn et al. (2019) investigated the division of paid and unpaid work among couples in the UK, using a couple-level analysis of homogamy in gender ideology. They found that a shared egalitarian ideology is required for a more equal division of work, and having only one partner with an egalitarian ideology is not sufficient. Davillas and Pudney (2017) also undertake a couple-level analysis to investigate whether health concordance exists and, if so, if it is more likely to be the result of homogamy or shared environment. They find both are equally important, especially for health conditions such as adiposity and cardiovascular and diabetes risk.

Expanding to other generations, the role of grandparents in providing childcare has regularly been studied. Bordone et al. (2018) investigated how such support varies between different ethnic groups, finding that White British and Caribbean parents are more likely to rely on grandparents for childcare than other ethnic groups. More broadly, Zhang and Li (2019) investigate the association of grandparents' class on occupational aspiration as teenagers; educational attainment as young adults; and occupational destination as adults. They find a persistent grandparent effect even after controlling for parental socioeconomic circumstances.

Other multi-generation research themes have mainly focused on migration decisions. For example, research investigating why families move shows that ‘family reasons’ – both child-care and social care – explain as many long distance moves within the sample as employment and education (Thomas, 2019). Chan and Ermisch (2015) find that couples tend to live close to the woman’s parents, but that higher educated couples tend to live further away from their families of origin, mainly as a result of labour market decisions.

## 8.5 MULTILEVEL INFLUENCES ON THE LIFECOURSE

The principle that context – time or place – matters for people’s lives is a strong dimension of lifecourse research.

### 8.5.1 The Importance of History

Researchers use longitudinal panel data to investigate how macro changes over time have influenced people’s behaviours and circumstances. A key focus of such research in *Understanding Society* has been to investigate the impact of the Great Recession. Unfortunately, the BHPS sample merged into *Understanding Society* at the same time. However, most of the underlying methods and questions remained the same and some research has demonstrated the consistency of measures across the two surveys. For example, Postel-Vinay and Sepahsalari (2019) compared employment changes and wages over the period 1992–2016 and found that the data were highly consistent with external Office for National Statistics sources over the same period. FitzRoy and Nolan (2018) examined income and life satisfaction before and after the Great Recession and found that real household income grew substantially up to the financial crash of 2008–09, then declined, followed by a partial recovery, especially among the highly educated. Life satisfaction over the same period rose the fastest for the highly educated and declined steeply for the low education group up to and beyond the crash, in spite of their rising income. Warren (2015) investigated work–life balance before and after the recession. She found that there was an increase in more part-time work and less hours worked together with greater financial insecurity among the working classes after the 2008–09 recession, which was associated with lower levels of life satisfaction. Bramley (2016) uses BHPS and *Understanding Society* to describe changes in housing needs from the early 1990s until 2008. He found that overall unmet housing needs declined in England from 1991 although there was a rise at the end of the period. Problems of affordability increased over the period, and early analysis of data around 2009 suggests this became worse during the financial crisis. Lindström and Giordano (2016) use BHPS to investigate the buffering effects of social capital for psychological distress during and immediately after the 2008–09 financial crisis. They found that stocks of social capital were significantly depleted during the recession and psychological wellbeing worsened, but the buffering effect increased. Finally, Lyons-Amos and Schoon (2018) examined the effect of the Great Recession on fertility, in particular first babies as they are most likely to be influenced by economic conditions. In general, higher birth rates were observed among more disadvantaged women compared with advantaged groups. Both groups increased their fertility during the recession although at a slower rate among disadvantaged women.

As well as investigating period effects, by including repeat measures over time, studies like *Understanding Society* are well placed to investigate the impact of policies by observing behaviours before and after changes are introduced. For example, Mohan et al. (2019) used difference-in-difference analysis to compare changes over time in the economic circumstances of residents living in areas that did and did not receive neighbourhood renewal investment in Northern Ireland. They found that regeneration policies did not reduce economic inequalities in the intervention areas. Braakmann and McDonald (2020) also used difference-in-difference models to investigate the effect of a cut in housing benefits on housing prices and moves. They found that benefit recipients were more likely to move, and to cheaper housing, following the policy change than other renters. A third example examined the impact on health of changing rules on the age of children when lone parents are required to seek work as a condition of benefits receipt. Using the fact that different rules existed at different periods in time, they used a difference-in-difference analysis to show the negative impact on women's mental health of requiring them to seek work (Katikireddi et al., 2018).

### 8.5.2 The Importance of Place

Numerous papers based on *Understanding Society* show the association between neighbourhood characteristics and health (for example, Mueller et al., 2019), political participation (Bartle et al., 2017), social participation and integration, especially for ethnic minorities (Peters et al., 2018), local labour markets and employment and mobility (for instance, Velthuis et al., 2019), as well as local factors influencing housing moves (Clark and Coulter, 2015). Similarly, a number of papers consider regional contexts. For example, Rabe and Taylor (2012) investigate the effect of regional labour markets and house prices on migration decisions. Bryson and Davies (2019) demonstrate the importance of regional cultures and parental behaviour for trade union membership. Many of these papers, however, take a relatively short time horizon and there is little research on the role of place across the lifecourse.

International comparative research provides a different perspective on how macro contexts – economic, cultural or policy related – influence population trends over time. In the main, such research has focused on European countries and family formation and dissolution. For example, Perelli-Harris et al. (2019) examine trends in marriage and cohabitation in the UK, Australia, Germany and Norway to investigate the happiness gap between marriage and cohabitation. Differences between countries due to the welfare state and family policies or cultural attitudes may influence the association between partnership formation and wellbeing. However, the authors find that while some differences exist in cross-sectional models, these all disappear when selection and relationship satisfaction are controlled for. Hannemann et al. (2018) investigate co-ethnic and inter-ethnic marriages in seven European countries, again anticipating that macro differences in terms of migration patterns, government-supported integration strategies and cultural differences between foreign and native populations may create informative insights for future immigration and integration policies. They found substantial differences in the prevalence of co-ethnic and inter-ethnic marriage across the migrant groups. They also found that countries with migrants from non-EU countries often have high levels of co-ethnic marriages while EU immigrants often have high levels of intermarriage. Bayrakdar et al. (2019) compare housing transitions in the UK and Germany. They found that first-time transitions into home ownership in the UK was closely associated with partnership formation while in Germany it occurred later around family formation.

Much research comparing a wider set of countries draws on the CNEF data,<sup>4</sup> which besides BHPS and *Understanding Society*, includes panel studies from Australia, Canada, Germany, Russia, South Korea, Switzerland and the USA. Cooke et al. (2009) used the harmonised data to compare the gender pay gap in the UK and the USA. They found that the negative effects of childbirth and migration for women are much stronger and more long-lasting in the UK than in the USA, despite more supportive family policies in general. The effect of moving on women's earnings is about one-half of the effect of childbirth. However, because migration involves a greater increase in the husband's earnings than does childbirth, the net effect is that migration contributes as much to the intra-family earnings gap as does childbirth. De Vaus et al. (2015) used the CNEF to estimate the short- and medium-term economic effects of divorce in the USA, the UK, Switzerland, Korea, Germany and Australia during the 2000s. In all countries, divorce had a negative effect on women's incomes, but the extent and duration varied by the country's social security system and family law, and most importantly opportunities post divorce for women's earnings and repartnering. A final example is Chan et al. (2019) who augmented the CNEF data with information from the China Family Panel Study to investigate income inequality in China in context. They find that income inequality and income mobility are higher in China than the Western countries, and while employment is a key driver of inequalities in the West, rural–urban differences are the strongest predictors on China.

## 8.6 CONCLUSION

This chapter has illustrated the ways in which household panel studies provide an invaluable resource for researchers concerned with lifecourse research across domains and disciplines. Its value will grow as studies age and develop longer lifespans and multi-generational research opportunities. There is much untapped potential to investigate the complexities of linked lives and the role of context across the lifecourse.

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## NOTES

1. <https://www.understandingsociety.ac.uk/> (accessed 25 February 2020).
2. The long-term content plan for the Study can be found here: <https://www.understandingsociety.ac.uk/documentation/mainstage/long-term-content-plan> (accessed 25 February 2020).
3. <https://cnef.ehe.osu.edu/> (accessed 25 February 2020).
4. <https://cnef.ehe.osu.edu/> (accessed 25 February 2020).

## REFERENCES

- Bailey, A.J. (2009), 'Population geography: Lifecourse matters', *Progress in Human Geography*, **33** (3), 407–18.
- Bartle, J., S. Birch and M. Skirmuntt (2017), 'The local roots of the participation gap: Inequality and voter turnout', *Electoral Studies*, **48**, 30–44.
- Bayliss, D., W. Olsen and P. Walthery (2017), 'Well-being during recession in the UK', *Applied Research in Quality of Life*, **12** (2), 369–87.
- Bayrakdar, S. and R. Coulter (2018), 'Parents, local house prices, and leaving home in Britain', *Population, Space and Place*, **24** (2), e2087.
- Bayrakdar, S., R. Coulter, P. Lersch and S. Vidal (2019), 'Family formation, parental background and young adults' first entry into homeownership in Britain and Germany', *Housing Studies*, **34** (6), 974–96.
- Bell, A. (2014), 'Life-course and cohort trajectories of mental health in the UK, 1991–2008 – a multi-level age–period–cohort analysis', *Social Science and Medicine*, **120**, 21–30.
- Benzeval, M. (2019), 'Enhancing data around early life in Understanding Society: Scientific opportunities and considerations', Understanding Society Working Paper No. 2019-14, ISER, University of Essex, Colchester.
- Benzeval, M., A. Davillas, M. Kumari and P. Lynn (2014), *Understanding Society: The UK Household Longitudinal Study Biomarker User Guide and Glossary*. Colchester: University of Essex.
- Bernardi, L., J. Huinink and R.A. Settersten (2019), 'The life course cube: A tool for studying lives', *Advances in Life Course Research*, **41**, 100258.
- Berrington, A., S. Roberts and P. Tammes (2016), 'Educational aspirations among UK young teenagers: Exploring the role of gender, class and ethnicity', *British Educational Research Journal*, **42** (5), 729–55.
- Berthoud, R., L. Fumagalli, P. Lynn and L. Platt (2009), "Design of the 'Understanding Society' ethnic minority boost sample", Understanding Society Working Paper Series 2009-02, University of Essex, Colchester.
- Bordone, V., M. Evandrou and A. Vlachantoni (2018), 'Ethnicity and grandparental child care in the United Kingdom', *Ageing and Society*, 1–22. DOI: 10.1017/S0144686X18001265
- Borkowska, M. (2019), 'Improving population and sub-group coverage: Who is missing and what can be done about it?', Understanding Society Working Paper No. 2019-15, ISER, University of Essex, Colchester.
- Braakmann, N. and S. McDonald (2020), 'Housing subsidies and property prices: Evidence from England', *Regional Science and Urban Economics*, **80**, 103374.
- Bramley, G. (2016), 'Housing need outcomes in England through changing times: Demographic, market and policy drivers of change', *Housing Studies*, **31** (3), 243–68.
- Brown, A., C.S. Waters and K.H. Shelton (2019), 'The educational aspirations and psychological well-being of adopted young people in the UK', *Adoption & Fostering*, **43** (1), 46–59.
- Brown, S. and K. Taylor (2016), 'Early influences on saving behaviour: Analysis of British panel data', *Journal of Banking & Finance*, **62**, 1–14.
- Browning, M., T.F. Crossley and M. Lührmann (2016), 'Durable purchases over the later life cycle', *Oxford Bulletin of Economics and Statistics*, **78** (2), 145–69.
- Brüderl, J., F. Kratz and G. Bauer (2019), 'Life course research with panel data: An analysis of the reproduction of social inequality', *Advances in Life Course Research*, **41**, 100247.
- Bryson, A. and R. Davies (2019), 'Family, place and the intergenerational transmission of union membership', *British Journal of Industrial Relations*, **57** (3), 624–50.
- Bu, F. (2016), 'Examining sibling configuration effects on young people's educational aspiration and attainment', *Advances in Life Course Research*, **27**, 69–79.
- Buscha, F. (2016), 'Does daily sunshine make you happy? Subjective measures of well-being and the weather', *The Manchester School*, **84** (5), 642–63.
- Chan, T.W. and J. Ermisch (2015), 'Proximity of couples to parents: Influences of gender, labor market, and family', *Demography*, **52** (2), 379–99.
- Chan, T.W., J. Ermisch and R. Gruijters (2019), 'The dynamics of income inequality: The case of China in a comparative perspective', *European Sociological Review*, **35** (3), 431–46.



- Clark, W.A. and R. Coulter (2015), 'Who wants to move? The role of neighbourhood change', *Environment and Planning A: Economy and Space*, **47** (12), 2683–709.
- Cooke, T.J., P. Boyle, K. Couch and P. Feijten (2009), 'A longitudinal analysis of family migration and the gender gap in earnings in the United States and Great Britain', *Demography*, **46** (1), 147–67.
- Corna, L. and A. Sacker (2013), 'A lifetime of experience: Modeling the labour market and family histories of older adults in Britain', *Longitudinal and Life Course Studies*, **4** (1), 35–56.
- Coulter, R. and Y. Hu (2017), 'Living apart together and cohabitation intentions in Great Britain', *Journal of Family Issues*, **38** (12), 1701–29.
- Davillas, A. and S. Pudney (2017), 'Concordance of health states in couples: Analysis of self-reported, nurse administered and blood-based biomarker data in the UK Understanding Society panel', *Journal of Health Economics*, **56**, 87–102.
- De Vaus, D., M. Gray, L. Qu and D. Stanton (2015), *The Economic Consequences of Divorce in Six OECD Countries*. Research Report No. 31. Melbourne: Australian Institute of Family Studies.
- Demey, D., A. Berrington, M. Evandrou and J. Falkingham (2013), 'Pathways into living alone in mid-life: Diversity and policy implications', *Advances in Life Course Research*, **18** (3), 161–74.
- Diewald, M. and K.U. Mayer (2009), 'The sociology of the life course and life span psychology: Integrated paradigm or complementing pathways?', *Advances in Life Course Research*, **14** (1), 5–14.
- Elder, G.H., Jr, M.K. Johnson and R. Crosnoe (2003), 'The emergence and development of life course theory', in J.T. Mortimer and M.J. Shanahan (eds), *Handbook of the Life Course*. New York: Kluwer Academic/Plenum Publishers, pp. 3–19.
- Fisher, H. and H. Low (2016), 'Recovery from divorce: Comparing high and low income couples', *International Journal of Law, Policy and the Family*, **30** (3), 338–71.
- FitzRoy, F.R. and M.A. Nolan (2018), 'Education, income and happiness: Panel evidence for the UK', *Empirical Economics*, 1–20. DOI: 10.1007/s00181-018-1586-5
- Fox, S., J.M. Hampton, E. Muddiman and C. Taylor (2019), 'Intergenerational transmission and support for EU membership in the United Kingdom: The case of Brexit', *European Sociological Review*, **35** (3), 380–93.
- Fraile, M. and I. Sánchez-Vitores (2019), 'Tracing the gender gap in political interest over the life span: A panel analysis', *Political Psychology*, DOI: 10.1111/pops.12600
- Giesselmann, M., S. Bohmann, J. Goebel et al. (2019), 'The individual in context(s): Research potentials of the Socio-Economic Panel Study (SOEP) in Sociology', *European Sociological Review*, **35** (5), 738–55.
- Grätz, M., K.J. Barclay, Ø. Wiborg et al. (2019), 'Universal family background effects on education across and within societies', MPIDR Working Papers WP-2019-007, Max Planck Institute for Demographic Research, Rostock, Germany.
- Green, M.J., A.H. Leyland, H. Sweeting and M. Benzeval (2016), 'Socioeconomic position and early adolescent smoking development: Evidence from the British Youth Panel Survey (1994–2008)', *Tobacco Control*, **25** (2), 203–10.
- Green, M.J., H. Stritzel, C. Smith, F. Popham and R. Crosnoe (2018), 'Timing of poverty in childhood and adolescent health: Evidence from the US and UK', *Social Science and Medicine*, **197**, 136–43.
- Hannemann, T., H. Kulu, L. Rahnu et al. (2018), 'Co-ethnic marriage versus intermarriage among immigrants and their descendants: A comparison across seven European countries using event-history analysis', *Demographic Research*, **39** (17), 487–524.
- Hick, R.O.D. and A. Lanau (2018), 'Moving in and out of in-work poverty in the UK: An analysis of transitions, trajectories and trigger events', *Journal of Social Policy*, **47** (4), 661–82.
- Katikireddi, S.V., O.R. Molaodi, M. Gibson, R. Dundas and P. Craig (2018), 'Effects of restrictions to Income Support on health of lone mothers in the UK: A natural experiment study', *The Lancet Public Health*, **3** (7), e333–e40.
- Kuh, D. and Y. Ben-Shlomo (2004), *A Life Course Approach to Chronic Disease Epidemiology. Second Edition*. Oxford: Oxford University Press.
- Lacey, R.E., A. McMunn and E. Webb (2019), 'Informal caregiving patterns and trajectories of psychological distress in the UK Household Longitudinal Study', *Psychological Medicine*, **49** (10), 1652–60.
- Lindström, M. and G.N. Giordano (2016), 'The 2008 financial crisis: Changes in social capital and its association with psychological wellbeing in the United Kingdom – a panel study', *Social Science and Medicine*, **153**, 71–80.

- Lynn, P., A. Nandi, V. Parutis and L. Platt (2018), 'Design and implementation of a high-quality probability sample of immigrants and ethnic minorities: Lessons learnt', *Demographic Research*, **38** (21), 513–48.
- Lyons-Amos, M. and I. Schoon (2018), 'Differential responses in first birth behaviour to economic recession in the United Kingdom', *Journal of Biosocial Science*, **50** (2), 275–90.
- Martin, N. and J. Mellon (2018), 'The puzzle of high political partisanship among ethnic minority young people in Great Britain', *Journal of Ethnic and Migration Studies*, 1–21 (online).
- Mayer, K.U. (2009), 'New directions in life course research', *Annual Review of Sociology*, **35** (1), 413–33.
- McMunn, A., L. Bird, E. Webb and A. Sacker (2019), 'Gender divisions of paid and unpaid work in contemporary UK couples', *Work, Employment and Society*, DOI:10.1177/0950017019862153
- Mishra, G., D. Nitsch, S. Black, B. De Stavola, D. Kuh and R. Hardy (2008), 'A structured approach to modelling the effects of binary exposure variables over the life course', *International Journal of Epidemiology*, **38** (2), 528–37.
- Mohan, G., A. Longo and F. Kee (2017), 'Evaluation of the health impact of an urban regeneration policy: Neighbourhood renewal in Northern Ireland', *Journal of Epidemiology and Community Health*, **71** (9), 919–27.
- Mohan, G., A. Longo and F. Kee (2019), 'Post-conflict area-based regeneration policy in deprived urban neighbourhoods', *Regional Studies*, 1–13 DOI: 10.1080/00343404.2019.1644450.
- Mueller, M.A.E., E. Flouri and T. Kokosi (2019), 'The role of the physical environment in adolescent mental health', *Health & Place*, **58**, 102153.
- Okun, B.S. and L. Raz-Yurovich (2019), 'Housework, gender role attitudes, and couples' fertility intentions: Reconsidering men's roles in gender theories of family change', *Population and Development Review*, **45** (1), 169–96.
- Orben, A., T. Dienlin and A.K. Przybylski (2019), 'Social media's enduring effect on adolescent life satisfaction', *Proceedings of the National Academy of Sciences*, **116** (21), 10226–8.
- Peasgood, T., A. Bhardwaj, K. Biggs et al. (2016), 'The impact of ADHD on the health and well-being of ADHD children and their siblings', *European Child and Adolescent Psychiatry*, **25** (11), 1217–31.
- Pelikh, A. (2019), 'Birth cohorts in Understanding Society: A description', Understanding Society Working Paper No. 2019-13, ISER, University of Essex, Colchester.
- Pelikh, A. and H. Kulu (2018), 'Short- and long-distance moves of young adults during the transition to adulthood in Britain', *Population, Space and Place*, **24** (5), e2125.
- Pell, J. (Chair) and Cohort Strategic Review Subgroup (2014), *Maximising the Value of UK Population Cohorts. MRC Strategic Review of the Largest UK Population Cohort Studies*. Swindon: MRC.
- Perelli-Harris, B., S. Hoherz, T. Lappegård and A. Evans (2019), 'Mind the "happiness" gap: The relationship between cohabitation, marriage, and subjective well-being in the United Kingdom, Australia, Germany, and Norway', *Demography*, **56** (4), 1219–46.
- Peters, S., N. Finney and D. Kapadia (2018), 'How is the benefit of mixed social networks altered by neighbourhood deprivation for ethnic groups?', *Journal of Ethnic and Migration Studies*, 1–18. DOI: 10.1080/1369183X.2018.1481002
- Pistoll, C.T. and S. Cummins (2019), 'Exploring changes in active travel uptake and cessation across the lifespan: Longitudinal evidence from the UK Household Longitudinal Survey', *Preventive Medicine Reports*, **13**, 57–61.
- Platt, L. and J. Polavieja (2016), 'Saying and doing gender: Intergenerational transmission of attitudes towards the sexual division of labour', *European Sociological Review*, **32** (6), 820–34.
- Platts, L.G., L.M. Corna, D. Worts, P. McDonough, D. Price and K. Glaser (2019), 'Returns to work after retirement: A prospective study of unretirement in the United Kingdom', *Ageing and Society*, **39** (3), 439–64.
- Postel-Vinay, F. and A. Sepahsalari (2019), 'Labour mobility and earnings in the UK, 1992–2016', Understanding Society Working Paper No. 2019-09, University of Essex, Colchester.
- Powdthavee, N., A.C. Plagnol, P. Frijters and A.E. Clark (2019), 'Who got the Brexit blues? The effect of Brexit on subjective wellbeing in the UK', *Economica*, **86** (343), 471–94.
- Rabe, B. and M.P. Taylor (2012), 'Differences in opportunities? Wage, employment and house-price effects on migration\*', *Oxford Bulletin of Economics and Statistics*, **74** (6), 831–55.

- Reeves, A. (2014), 'Cultural engagement across the life course: Examining age–period–cohort effects', *Cultural Trends*, **23** (4), 273–89.
- Roberts, J. and K. Taylor (2016), 'Intra-household commuting choices and local labour markets', *Oxford Economic Papers*, **69** (3), 734–57.
- Schoon, I. and M. Lyons-Amos (2016), 'Diverse pathways in becoming an adult: The role of structure, agency and context', *Research in Social Stratification and Mobility*, **46**, 11–20.
- Stone, J., A. Berrington and J. Falkingham (2014), 'Gender, turning points, and boomerangs: Returning home in young adulthood in Great Britain', *Demography*, **51** (1), 257–76.
- Thomas, G.O., W. Poortinga and E. Sautkina (2016), 'The Welsh single-use carrier bag charge and behavioural spillover', *Journal of Environmental Psychology*, **47**, 126–35.
- Thomas, G.O., R. Fisher, L. Whitmarsh, T.L. Milfont and W. Poortinga (2018), 'The impact of parenthood on environmental attitudes and behaviour: A longitudinal investigation of the legacy hypothesis', *Population and Environment*, **39** (3), 261–76.
- Thomas, M.J. (2019), 'Employment, education, and family: Revealing the motives behind internal migration in Great Britain', *Population, Space and Place*, **25** (4), e2233.
- Tippett, N. and D. Wolke (2015), 'Aggression between siblings: Associations with the home environment and peer bullying', *Aggressive Behavior*, **41** (1), 14–24.
- Uhlenberg, P. (1996), 'Mutual attraction: demography and life-course analysis', *The Gerontologist*, **36** (2), 226–9.
- University of Essex, Institute for Social and Economic Research, Natcen Social Research and Kantar Public (2019), *Understanding Society: Waves 1–9, 2009–2018 and Harmonised BHPS: Waves 1–18, 1991–2009 (data collection)*, 12th Edition UK Data Service: SN: 6614, <http://doi.org/10.5255/UKDA-SN-6614-13>
- Velthuis, S., P. Sissons and N. Berkeley (2019), 'Do low-paid workers benefit from the urban escalator? Evidence from British cities', *Urban Studies*, **56** (8), 1664–80.
- Vlachantoni, A., O. Maslovskaya, M. Evandrou and J. Falkingham (2016), 'The determinants of transitions into sheltered accommodation in later life in England and Wales', *Journal of Epidemiology and Community Health*, **70** (8), 771–7.
- Vlachantoni, A., Z. Feng, M. Evandrou and J. Falkingham (2017), 'Ethnic elders and pension protection in the United Kingdom', *Ageing and Society*, **37** (5), 1025–49.
- Warren, T. (2015), 'Work–life balance/imbalance: The dominance of the middle class and the neglect of the working class', *The British Journal of Sociology*, **66** (4), 691–717.
- Webb, E., L. Panico, L. Bécares, A. McMunn, Y. Kelly and A. Sacker (2017), 'The inter-relationship of adolescent unhappiness and parental mental distress', *Journal of Adolescent Health*, **60** (2), 196–203.
- Whitley, E., I.J. Deary, S.J. Ritchie, G.D. Batty, M. Kumari and M. Benzeval (2016), 'Variations in cognitive abilities across the life course: Cross-sectional evidence from Understanding Society: The UK Household Longitudinal Study', *Intelligence*, **59**, 39–50.
- Yucel, D. and D.B. Downey (2015), 'When quality trumps quantity: Siblings and the development of peer relationships', *Child Indicators Research*, **8** (4), 845–65.
- Zhang, M. and Y. Li (2019), 'Family fortunes: The persisting grandparents' effects in contemporary British society', *Social Science Research*, **77**, 179–92.
- Zuccotti, C.V. and J. O'Reilly (2019), 'Ethnicity, gender and household effects on becoming NEET: An intersectional analysis', *Work, Employment and Society*, **33** (3), 351–73.
- Zwysen, W. (2015), 'The effects of father's worklessness on young adults in the UK', *IZA Journal of European Labor Studies*, **4** (1), 2.

## PART III

# FAMILY DYNAMICS AND LIVING ARRANGEMENTS OVER THE LIFECOURSE

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## 9. Unmarried families in the UK and the US

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### 9.1 INTRODUCTION

One of the most dramatic changes in fertility behaviour in recent decades has been the separation of marriage from childbearing. For much of the twentieth century in most western societies, marriage was the normative setting for having children, whereas nowadays this is much less the case. Prior to the 1960s, having a child outside of marriage evoked a great deal of stigma, and young single women who became pregnant were encouraged to either marry the father of their child – commonly referred to as a ‘shot-gun marriage’ – or place the child up for adoption (Gill, 1977; Akerlof et al., 1996). After 1960, the proportion of children born outside marriage began to rise, although at different rates and for somewhat different reasons throughout Europe and North America (Heuveline et al., 2003; Kiernan, 2004; Sobotka and Toulemon, 2008). In the US, and to a lesser extent in the UK, the initial rise in ‘illegitimacy’, as non-marital childbearing was then termed, tended to occur among single and to a lesser extent separated women, with policy debates focusing on increasing sexual relations outside of marriage, the absence of effective contraception and legal therapeutic abortions, restrictions on divorce (Hartley, 1975), and, particularly in the US, marriage penalties created by welfare state benefits for single mothers (Murray, 1984). By the 1970s, a new force had emerged – the rise of unmarried cohabitation – and it is this development that led to the dramatic rise in childbearing outside of marriage that occurred throughout most western nations (Kiernan, 2001; Wu et al., 2001).

Although a great deal has been written about the trends in non-marital childbearing, surprisingly little research has been done outside the US on the actual experiences of families formed by unmarried parents. The absence of comparative research is due in part to the fact that in most continental European countries, the increase in non-marital childbearing has not been viewed as a cause for concern until very recently. In these countries, the increase in births outside marriage was predominantly due to an increase in births to cohabiting couples who were believed to be very similar to married couples. Indeed, in some quarters, the rise in non-marital childbearing was seen as a positive change – signalling women’s growing economic independence and greater gender equality (Lesthaeghe and Surkyn, 1988). The picture in the US, and to a lesser extent the UK, was somewhat different, with the early rise in non-marital childbearing occurring primarily among poor and less educated women who were not cohabiting with their child’s father (Kiernan and Estauth, 1993; McLanahan, 2011).

More recently, there has been a convergence in views about families formed by unmarried parents among the continental European countries and the US and UK and what they imply for parents, children and society. In Europe, the convergence is driven by growing evidence that cohabiting unions are less stable than marital unions and that cohabiting parents are less well educated than parents in marital unions, suggesting that the changes in family forma-

tion may be less sanguine than previously thought (Perelli-Harris et al., 2010; McLanahan and Jacobsen, 2015). In the US and UK, the convergence is driven by evidence that recent increases in non-marital childbearing are occurring almost entirely among cohabiting couples (Curtin et al., 2014), many of whom have some post-secondary education, suggesting that the changes may be more benign than previously thought.

Thus, just as in the past when social and behavioural scientists accumulated a solid foundation of cross-national evidence on the short-term and long-term consequences of divorce (for reviews, see McLanahan et al., 2013; Härkönen et al., 2017), a similar strategy is now needed to facilitate our understanding of the implications of unmarried parenthood for parents, children and society. In this chapter we make a start by drawing on data from two national longitudinal studies – the UK Millennium Cohort Study (MCS) and the US Fragile Families Study (FFS) – to compare and contrast the experiences of married and unmarried parents during the first five years of children’s lives.

The early years of childhood are important, as a growing body of research shows that children’s experiences in infancy and early childhood have lasting consequences for their future health and development (Shonkoff and Phillips, 2000; Heckman, 2006); a second literature indicates that parental resources and partnership stability play a large role in shaping children’s early experiences (Wu and Martinson, 1993; Duncan and Magnuson, 2005; Fomby and Cherlin, 2007; Osborne and McLanahan, 2007). Together, these two bodies of research suggest that in order to understand the long-run implications of the increase in non-marital childbearing and how these play out differently in different countries, we need to know more about the resources and stability of these families during early childhood. Our analysis is organized around the following four questions:

- *What is the nature of parents’ partnerships, and what are parents’ capabilities and resources around the time their child is born?*
- *What happens to parents’ partnerships over time?*
- *What happens to mothers’ resources, particularly family income and her mental health?*
- *What happens to non-resident fathers’ involvement over time?*

For each question we ask whether the patterns are similar in the UK and the US. We focus on these two countries because both countries have experienced large increases in non-marital childbearing since 1970, and both countries have data on large, national samples of children born to unmarried parents at the turn of the century and followed from birth to middle childhood. While some of the questions posed above have been examined in prior analyses, no study to date has examined all these four aspects of family life in a comparative perspective. Given that birth cohort studies are currently underway in several European countries, including France, Denmark, Ireland and Scotland, an important goal of the chapter is to illustrate the kinds of questions that can be examined with such data and to identify areas that may prove to be of particular interest in future studies.

## 9.2 DATA

Our data are taken from the Millennium Cohort Study (MCS) in the UK and the Fragile Families Study in the US (FFS). The MCS has been following approximately 18,800 children born in the UK at the turn of the twenty-first century. Interviews with mothers (and resident

partners) were conducted when the child was nine months old, and follow-up interviews were conducted when the child was three, five, seven and eleven years old. The FFS has been following approximately 5,000 children born in US cities with populations of 200,000 or more between 1998 and 2000. Interviews with mothers (and fathers) were conducted at the time of the child's birth, and follow-up interviews were conducted when the child was one, three, five and nine years old. Both studies contain rich information about the type, quality and stability of parental partnerships as well as information on parents' resources and behaviours. Both studies also oversampled disadvantaged families. Given the overlap in questions and measures and the similarity in samples, these two data sets allow us to compare families formed by unmarried couples in the two countries, including heterogeneity within unmarried couples. More detailed information about the two studies can be found for the MCS in Hansen et al. (2012) and for the FFS in Reichman et al. (2001). The websites of both studies also contain extensive documentation including user-guides, sampling information and publications.<sup>1</sup> In this study we make use of three waves of data from each study. In the case of the MCS, we use the nine-month baseline survey and the follow-up surveys conducted when children were ages three and five years. In the case of the FFS, we use data from the baseline interview, which was conducted with mothers at the hospitals, and the follow-up surveys conducted at ages three and five years. We also use data from the one-year FFS follow-up survey to describe experiences during the first year after the child's birth. Comparative analyses present challenges where identical questions are not included from the outset as is the case in, for example, the Gender and Generations Surveys or the earlier set of Fertility and Family Surveys. Extensive work was required to make our data comparable across the two countries, for example, equalizing household incomes and educational qualifications and selecting variables for which there were similar measures. Although in some instances differences in questions and the wording of questions hinder our ability to compare the two countries in terms of parents' overall resources and behaviours, these differences do not significantly interfere with our ability to compare countries in terms of their within-country variation by partnership status. In cases where differences in measures are likely to affect between-country comparisons, we note this in the tables and text. A more detailed technical report is available on request.

## 9.3 RESULTS

### 9.3.1 Parents' Partnerships and Capabilities at Birth and During Infancy

Understanding the nature of parental partnerships around the time of a child's birth is important insofar as partnership commitment and quality are good predictors of whether or not a child is likely to be raised in a stable home environment and whether or not the child's biological father is likely to be involved in his or her life. Similarly, knowledge of parents' capabilities at birth is important for assessing children's access to parental resources as well as documenting differences in the types of couples who select into different family arrangements.

Table 9.1 reports the partnership status of parents at the time of their child's birth. As we see from Table 9.1 partnership status is generally similar in the two countries. In both the US and UK samples, approximately 60 per cent of all births are to married parents while 40 per cent are to unmarried parents. Among unmarried parents, UK parents are more likely than US parents to be in cohabiting partnerships (62 per cent as compared with 50 per cent), whereas

Table 9.1 Parental partnerships at birth

	UK	US
Married	59.1	60.2
All Unmarried	40.9	39.8
Cohabiting	61.7	49.7
Dating <sup>a</sup>	18.2	32.3
Not in a partnership	20.1	18.0
N	12 795	3 576

Notes: All percentages weighted and sample limited to mothers who were the main respondent (UK) or primary caregiver (US).

<sup>a</sup> US survey asks if mother was romantically involved with the father; UK survey asks if mother was closely involved with the father.

Table 9.2 Unmarried fathers' involvement at birth/infancy by partnership status at birth

	Cohabiting		Dating		Not in partnership		All unmarried	
	UK	US	UK	US	UK	US	UK	US
Father present at/shortly after the birth <sup>a</sup>	93.0	96.5	71.4	71.4	25.3	29.2	75.4	76.5
Father named on the birth certificate	97.3	96.1	81.0	80.3	45.8	51.6	84.0	83.2

Notes: All percentages weighted and sample limited to mothers who were the main respondent (UK) or primary caregiver (US).

<sup>a</sup> US survey asks if father visited the mother in hospital after birth; UK survey asks if father was present at the birth.

US parents are more likely to be in 'dating' partnerships (32 per cent as compared with 18 per cent). We use the term 'dating' to describe parents who are romantically involved with one another but not living together. Finally, only about one in 12 births in the two countries are to single mothers, defined as mothers who are neither married, cohabiting nor romantically involved with the biological father of their child.

Tables 9.2 and 9.3 present data on fathers' involvement and the quality of parents' relationship around the time of their child's birth. For these comparisons we distinguish among cohabiting partnership, dating partnerships and single mother families.

Table 9.2 reports levels of father involvement among unmarried parents. Two indicators are used to measure involvement: whether the father came to the hospital when the child was born and whether the father's name was on the birth certificate. In the UK survey, the questions about fathers' involvement were asked retrospectively at the time of the nine-month interview; in the US survey, they were asked at the hospital interview. Interestingly, the level of unmarried fathers' involvement in the two countries is very similar, and this pattern holds across all three groups of unmarried parents (Table 9.2). Although cohabiting fathers are the most involved of all unmarried fathers, as we would expect, fathers in dating partnerships also show high levels of involvement. About 75 per cent of all unmarried fathers are at the hospital when their child is born, and nearly 85 per cent of fathers' names are on the child's birth certificate. Nonetheless, in both countries there is a clear relationship status gradient in fathers' involvement, with cohabiting fathers showing the highest levels of involvement, followed by fathers in dating partnerships, and then by fathers who are no longer romantically involved with the child's mother. The only area in which we see a country difference is among single mother families, where US fathers appear to be somewhat more involved than UK fathers.



**Table 9.3** *Mothers' views of single parenthood and reports of relationship quality at birth/infancy by partnership status at birth*

	Unmarried					
	Married		Cohabiting		Single	
	UK	US	UK	US	UK	US
Partner ever used force in relationship <sup>a</sup> ;	2.8	4.2	5.3	4.4	5.1	2.2
Relationship quality score <sup>b</sup> , **	2.7	2.7	2.6	2.7	2.5	2.6
Positive attitude towards single motherhood <sup>c</sup>	46.0	59.5	69.2	80.4	84.9	88.2

*Notes:* All percentages weighted and sample limited to mothers who were the main respondent (UK) or primary caregiver (US). Analyses based on baseline data except \*\* measured at 1 year (US).

<sup>a</sup> FFS 1-year questionnaire asked if they were ever 'cut, bruised, or seriously hurt in a fight with' the cohort member's father. The MCS classed force as 'grabbing, pushing, shaking, hitting, kicking, etc.'

<sup>b</sup> UK score measures quality of relationship (higher scores indicate better relationship quality); US score measures relationship supportiveness (higher scores indicate greater supportiveness).

<sup>c</sup> UK wording: 'A single parent can bring up children just as well as a couple can'; US wording: 'A mother living alone can bring up her child as well as a married couple'.

\* Conditional on mother living with a co-residential partners at 9 months (UK)/1 year (US).

Table 9.3 compares families according to the quality of parental relationship (the degree of violence and supportiveness) and mothers' attitudes about single motherhood. As shown in the table, reports of relationship quality are high in both the US and the UK, with all mothers reporting high levels of emotional support from fathers and low levels of domestic violence during the child's infancy. The two countries differ, however, with respect to which statuses report the highest levels of domestic violence. In the UK, violence is much higher among cohabiting and single mothers, as compared with married mothers; in the US, cohabiting and married mothers report similar levels of violence, and single mothers report the lowest levels of violence. We should note that violence is measured differently in the two data sets. In the UK survey, the question asks whether the partner has ever used force, whereas in the US survey, it asks whether the mother was *ever* seriously injured by the child's father. Insofar as the US survey uses a more conservative measure, the slightly lower levels of force among parents in the UK may actually mask an even greater disparity between the countries.

The evidence presented thus far suggests that a large proportion of unmarried parents in both countries are in 'marriage-like' partnerships when their child is born. At least one piece of evidence, however, indicates that something else is at play. When asked whether a single mother can raise a child as well as a married mother, a large proportion of mothers in both countries answer 'yes'. The fact that a large proportion of mothers view single motherhood as a viable alternative to marriage lends support to the claim that marriage is no longer seen as the only context for raising children. The fact that married mothers are less positive towards single motherhood than unmarried mothers, however, suggests that traditional attitudes persist in some quarters.

Tables 9.4 and 9.5 provide information on parents' demographic characteristics, capabilities and resources around the time of a child's birth, including age and education, health and health behaviours, and economic resources. Unlike the quality of parental relationships, which is relatively high across all partnership statuses, parental resources vary a great deal, with married parents having the most resources and single mothers having the fewest resources. In these and later tables, we do not distinguish between dating mothers and single mothers because the characteristics of these two groups of mothers are very similar within both countries.

Table 9.4 Parental demographic characteristics and capabilities at birth/infancy by partnership status at birth

	Unmarried							
	Married		Cohabiting		Single		All	
	UK	US	UK	US	UK	US	UK	US
Mother's age at birth (mean)	30.3	29.3	26.6	24.7	24.7	22.6	28.3	27.1
Teen parent at first birth*	7.9	21.2	26.1	50.6	46.6	61.2	18.6	35.0
Grandmother lives in household***	3.6	8.1	3.4	16.6	17.8	37.6	5.8	15.5
Mother lived with both parents at age 15	84.0	60.9	67.9	44.2	59.8	35.2	76.2	53.1
Ethnicity								
White	85.9	48.9	96.8	25.9	85.3	18.0	88.6	38.2
Hispanic		28.9		41.0		30.1		31.3
Black	1.8	11.7	1.5	29.1	7.7	49.1	2.6	22.6
Mixed	0.1		0.8		2.4		1.0	
Indian	3.0		0.1		0.9		1.9	
Pakistani/Bangladeshi	6.5		0.1		1.8		4.2	
Other	2.2	10.8	0.6	4.0	1.8	2.8	1.7	3.1
Born in the UK/US**	86.7	71.3	95.5	77.5	90.3	85.9	89.5	75.5
Education								
Qualifications‡ <sup>b</sup>								
Higher	37.5	35.7	17.9	2.0	7.7	2.5	27.9	22.3
Lower tertiary	20.8	22.1	21.6	20.0	14.9	18.3	20.1	20.9
Completed secondary	33.0	25.2	47.3	37.4	47.9	35.3	39.0	29.6
No qualifications	8.7	15.9	13.2	39.7	29.5	43.1	13.1	26.1
Annual household income (mean)***	£28 895	£35 237	£20 796	£15 483	£8 790	£12 489	£23 648	£26 785
In bottom income quintile for whole UK/US***	20.7	16.3	37.9	48.8	80.9	62.4	34.6	31.9
In work/on leave***	57.2	54.3	50.4	44.0	23.5	47.1	50.2	50.8

Notes: All percentages weighted and sample limited to mothers who were the main respondent (UK) or primary caregiver (US). Analyses based on baseline data except \*\* measured at 3 years (UK)/1 year (US); \*\*\* measured at 1 year (US). White represents non-Hispanic whites; black represents non-Hispanic blacks. <sup>a</sup> US income converted to pounds sterling using OECD purchasing power parity data; <sup>b</sup> Qualifications are harmonized between US/UK: UK (Higher, A/AS-Level, GCSE, None), US (College/Higher, Some college, High school, Less than high school).

As shown in Table 9.4, unmarried mothers in both countries are much younger than married mothers (four to five years). They are also more likely to have begun childbearing in their teens. Teenage motherhood is much more common in the US than in the UK, and this pattern holds for all partnership statuses. In both countries, however, we observe a clear age gradient, with married mothers being older than cohabiting mothers and cohabiting mothers being older than single mothers.

A similar gradient is seen with respect to mothers' exposure to parental separation during childhood, an important marker for instability in their own partnerships. US mothers are much more likely to have experienced parental separation than UK mothers, reflecting the higher divorce rates operating in the US in previous decades. The prevalence of living with a grand-

mother also differs markedly between countries and by partnership status within countries. In the UK, only about 3.5 per cent of married and cohabiting mothers are living with their child's grandmother, increasing to nearly 18 per cent among single mothers. In the US, married mothers report the lowest levels of co-residence with grandmothers (8 per cent), followed by cohabiting mothers (17 per cent) and single mothers (38 per cent). The large difference in living arrangements between the UK and the US may be due to more generous housing support for low-income families in the UK.

Partnership status also differs by race, ethnicity and nativity, although the patterns are somewhat mixed. In the UK, where the sample of births is 89 per cent white, the proportion of births to white mothers is slightly lower among married mothers as compared with cohabiting mothers (86 per cent versus 97 per cent) and similar to that of single mothers (85 per cent). In the US, where the proportion of births to white mothers is only 38 per cent overall, there is a steep partnership gradient, with white mothers accounting for 49 per cent of marital births, 26 per cent of cohabiting births and only 18 per cent of births to single mothers. Black mothers are disproportionately represented among unmarried mothers in both countries. Other ethnic groups, however, show different patterns, with Hispanic mothers being overrepresented among unmarried mothers in the US, and South Asian mothers being overrepresented among married mothers in the UK. In both countries, foreign-born mothers are disproportionately married.

Looking next at economic resources, unmarried mothers are notably disadvantaged as compared with married mothers in both countries, with single mothers being the most disadvantaged. In the UK, the proportion of highly educated mothers follows an even gradient, going from 37.5 per cent of married mothers to 18 per cent of cohabiting mothers to 8 per cent of single mothers. In the US, the pattern is different, with single mothers showing slightly higher levels of education than cohabiting mothers. The low level of education among cohabiting mothers in the US is due in part to the high proportion of Hispanic mothers in this group, especially Hispanic immigrant mothers.

Whereas unmarried mothers in the UK have average incomes equal to 56 per cent of married mothers' incomes, in the US their average income is only 40 per cent of that of married mothers. This cross-national difference is due in large part to the higher incomes of married mothers in the US. Furthermore, whereas in the UK the income drop-off is most noticeable between cohabiting and single mothers, in the US it is most noticeable between married and cohabiting mothers. This same pattern holds for the proportion of mothers in the lowest income quintile, which approximates the poverty line, with the UK showing a larger gap between cohabiting and single mothers, and the US showing a larger gap between married and cohabiting mothers. Finally, married mothers are more likely than unmarried mothers to be working in the year following their child's birth. In the US, the proportion of working mothers is similar for cohabiting and single mothers, whereas in the UK, single mothers are much less likely to be working than cohabiting mothers. The high level of employment among single mothers in the US is a relatively recent phenomenon that is due in part to changes in welfare policies that impose strict work requirements for mothers receiving welfare benefits.

Next we compare mothers' health and health behaviours, both of which are known to be important markers for children's development and wellbeing (Table 9.5). For the US, we use data from the hospital survey to measure mothers' pre-natal behaviours and data from the year 1 survey to measure post-natal behaviours; for the UK, we use data collected at the nine-month survey. In both the US and the UK, smoking during pregnancy is far higher among unmarried

Table 9.5 *Maternal and health-related behaviours at birth/infancy by partnership status at birth*

	Unmarried							
	Married		Cohabiting		Single		All	
	UK	US	UK	US	UK	US	UK	US
Smoked during pregnancy	8.1	6.5	32.3	27.6	43.4	24.1	21.5	14.2
Drank during pregnancy	33.2	9.7	33.6	9.1	26.9	8.9	32.3	9.4
Received ante-natal care in first trimester <sup>a</sup>	84.1	88.0	78.9	83.0	67.8	76.9	80.3	84.8
Ever breastfed cohort member***	77.7	73.4	62.6	55.3	49.7	49.1	69.5	65.0
Duration of breastfeeding in weeks <sup>b*</sup>	18.8	26.3	14.3	21.3	13.2	16.4	17.2	24.0
Experienced post-natal depression*** <sup>c</sup>	11.3	13.2	15.3	16.2	19.7	15.7	13.6	14.3
Self-reported general health is poor/fair***	13.7	10.4	18.8	14.4	24.3	17.1	16.6	12.5
Heavy drinker***	4.3	2.0	10.1	8.0	12.7	7.7	7.1	4.3
Ever takes recreational drugs**	2.0	0.7	6.7	5.9	7.6	5.8	4.1	2.8

*Notes:* All percentages weighted and sample limited to mothers who were the main respondent (UK) or primary caregiver (US). Analyses based on baseline data except \*\* measured at 3 years (UK/US), \*\*\* measured at 1 year (US).

<sup>a</sup> Lower rates of ante-natal care in the UK may be overstated as a first trimester limit of 13 weeks is used for comparability; however, 50 per cent of mothers not receiving ante-natal care in first trimester actually did so within 16 weeks.

<sup>b</sup> Includes 12 per cent of UK mothers and 9 per cent of US mothers who are still breastfeeding and duration is set to age of child at interview.

<sup>c</sup> In the UK, depression is measured by the Rutter Malaise Inventory; in the US, it is measured by the Composite International Diagnostic Interview Short-Form (CIDI-SF).

\* Conditional on baby having taken milk at least once.

mothers than among married mothers, nearly four times as high, whereas drinking during pregnancy is relatively similar across partnership types, and even slightly lower among unmarried mothers. For both measures, negative health behaviours are higher in the UK than in the US, although only modestly so for smoking. Around one-third of UK mothers report drinking while pregnant as compared with only 9 per cent of US mothers. This difference is probably due to differences in the medical advice about drinking that is given to pregnant women in the two countries. In the US, mothers are told to avoid alcohol, whereas in the UK occasional drinking is not regarded as being harmful to the developing fetus.

Post-birth risky health behaviour is also more common in the UK than in the US and more common among unmarried mothers as compared with married mothers. Heavy drinking during the first year after the birth shows a clear partnership gradient among UK mothers, rising from 4 per cent among married mothers to 10 per cent among cohabiting mothers and 13 per cent among single mothers. In the US, there is a sharp difference between married mothers (2 per cent) and unmarried mothers (8 per cent) but no difference between cohabiting and single mothers. Similarly, recreational drug use is higher among unmarried mothers in both countries, particularly among single mothers in the UK.

Pre-natal care during the first trimester is lower among unmarried mothers (by about 10 percentage points) in both countries and follows a clear partnership gradient. Overall levels of early pre-natal care are lower in the UK than in the US, but single mothers in the UK experience a steeper drop in care relative to cohabiting mothers than single mothers in the US. The overall difference between the US and UK may reflect small differences in the timing of pre-natal care, as no country differences are found at 16 weeks of pregnancy.

Mothers' reports of post-natal health problems are also more common among unmarried mothers in both countries. In the UK, depression is measured by the Rutter Malaise Inventory (score over 4 indicates mental health problems); in the US, it is measured by the Composite International Diagnostic Interview Short-Form (CIDI-SF). In both countries, overall health is measured by a question that asks mothers whether their health is 'excellent, very good, good, fair or poor'. For this analysis, we distinguish between mothers who answer 'fair or poor' and all other mothers. While health problems steadily increase in both countries as partnership status moves from married to single, in the US depression is actually more common among cohabiting mothers than single mothers, whereas in the UK cohabiting mothers report less depression than single mothers. Although aggregate depression levels are similar in the two countries, UK mothers exhibit a steeper partnership gradient.

Finally, the incidence and duration of breastfeeding are associated with partnership status in both countries, with married mothers reporting breastfeeding more often and for longer periods of time than unmarried mothers. Just over half of unmarried mothers in each country report ever breastfeeding their child, whereas close to three-quarters of married mothers do so. Overall, levels of breastfeeding are slightly higher in the UK than in the US, due primarily to UK married and cohabiting women having higher rates. While US mothers are less likely than UK mothers to ever breastfeed, those who do breastfeed report doing so for longer periods of time, 24 weeks on average for US mothers as compared to 17 weeks for UK mothers. The partnership gradients are similar in both countries, although the contrast between duration of breastfeeding is particularly pronounced amongst married and cohabiting mothers.

In sum, the findings reported in Tables 9.4 and 9.5 underscore the extent to which parents' partnership status at birth is an important marker of differences in children's access to parental resources (broadly construed). They also highlight important country differences with respect to cohabiting unions. Whereas in the UK, cohabiting mothers are more similar to married mothers on many indicators, in the US, they are more similar to single mothers. Finally, the disparities in parental resources highlight the importance of selection into different types of partnerships and underscore the importance of taking account of these confounders when trying to assess the effects of partnership status at birth on post-birth trajectories and ultimately on child wellbeing.

### **9.3.2 Changes in Partnership Status over Time**

Thus far we have focused on the partnerships and capabilities of unmarried parents at the time of their child's birth and during infancy. Our findings indicate that about half of unmarried parents in the US and about 60 per cent of unmarried parents in the UK are in 'marriage-like' partnerships when their child is born; that is, the parents are living together, fathers are very involved and the quality of the parental relationship is high. At the same time, unmarried parents in both countries are disadvantaged relative to married parents in terms of their demographic characteristics, socioeconomic status and health, with a clear gradient from married to cohabiting to single.

In this section, we examine how the family lives of children unfold in terms of stability and change during the first five years of life. We use several measures to describe and compare the level of instability and complexity in children's lives and how this differs for children born to married and unmarried parents in the UK and the US. First, we describe children's experiences according to whether their mother changes partners after their birth. Second, we

Table 9.6 Partnership pathways from birth to five years by partnership status at birth

	Unmarried							
	Married		Cohabiting		Single		All	
	UK	US	UK	US	UK	US	UK	US
<b>Married at birth</b>								
Stable	88.9	78.7					53.9	48.0
Periods of instability	2.1	0.7					1.3	0.4
Other unstable <sup>a</sup>	9.0	20.7					5.5	12.6
Total	100.0	100.0						
<b>Cohabiting at birth</b>								
Stable			44.0	23.4			10.9	4.8
To married			25.2	28.8			6.2	5.9
Periods of instability			6.0	3.2			1.5	0.7
Other unstable <sup>a</sup>			24.8	44.6			6.1	9.1
Total			100.0	100.0				
<b>Single at birth</b>								
Stable					40.4	31.8	5.9	5.9
To married					8.5	6.7	1.3	1.3
To cohabiting					17.7	10.6	2.6	2.0
To new partner					13.8	23.6	2.0	4.4
Periods of partnership					19.6	27.4	2.9	5.1
Total					100.0	100.0		

Notes: Percentages are weighted, sample limited to households present at all waves where the mother is the main respondent (UK) or primary caregiver (US).

<sup>a</sup> Includes married/cohabiting to lone parent and married/cohabiting to re-partnered.

count the total number of partnership transitions (residential and dating transitions) to which children are exposed. And finally, we examine the extent to which mothers have children with new partners. A growing body of research finds that mothers' partnership instability and multi-partnered fertility – defined as having children with different men – are negatively correlated with child wellbeing (Guzzo, 2014).

As shown in Table 9.6, children born in the UK are more likely to be living with both of their biological parents at age five than children born in the US. Stability follows the expected patterns in both countries, with married mothers being the most likely to have stable unions, single mothers showing the least stability and cohabiting mothers falling in between.

Marital unions are more stable in the UK than in the US by about 10 percentage points. The greatest cross-national difference, however, is found in cohabiting unions, with UK partnerships being much more stable than US partnerships. These findings indicate that cohabiting partnerships in the UK are more similar to marriages in terms of stability, differing by only 15 percentage points. By contrast, the gap between marital and cohabiting partnerships in the US is much larger, with a 25 percentage point difference. Thus, it seems that cohabiting partnerships in the US are not only more disadvantaged but also more unstable than UK cohabiting partnerships.

In both countries, single mothers largely remain single, with about 60 per cent of mothers who are single at birth either remaining single or partnering and returning to the single status by the time their child is five years old. Many of these mothers have never cohabited with

a partner during the child's first five years, 40 per cent of single mothers in the UK and 32 per cent in the US. Whereas US mothers who are single at birth are more likely than UK mothers to form co-residential unions with new partners (24 per cent in the US and 14 per cent in the UK), UK mothers are more likely than US mothers to enter a co-residential union with their child's biological father (26 per cent and 17 per cent, respectively). These results do not suggest any strong trend in the partnership patterns of single mothers, as substantial proportions of mothers move in with the biological fathers, move in with new partners, and remain consistently single. They do, however, suggest that children born to single mothers spend much of their time in early childhood in households with neither a biological nor a social father.

Whereas Table 9.6 groups mothers according to their cumulative partnership histories, Table 9.7 shows the total number of dating and co-residential transitions a mother experienced from the time her baby was born until the child was five years old. For this measure we count both the ending and beginning of a relationship as a transition, so a divorce and remarriage would count as two transitions. The US measure counts dating partnerships that last a month or longer, whereas the UK measure counts all dating experiences. This and other differences related to question wording mean that the US measure is more likely to undercount transitions than the UK measure. Given this fact, the high levels of partnership instability in the US are particularly striking.

Residential transitions are least common among married couples, which is not surprising. The vast majority of married couples have no transitions at all, and over 90 per cent of couples with at least one transition have only one or two transitions. Changes in co-residence are more common for mothers who are cohabiting at birth, particularly in the US, where over half of cohabiting mothers experience at least one transition as compared to just 30 per cent of mothers in the UK. (Cohabiting mothers who marry the father of their child are counted as having 0 transitions.) Again, most mothers who experience a transition (around 85 per cent) have only one or two transitions. As expected, single mothers are the most likely to experience a residential transition: 60 per cent of single mothers in the UK and nearly 70 per cent of single mothers in the US. Also, among mothers who have a residential transition, single mothers are more likely than cohabiting mothers to have only one transition.

Dating transitions are somewhat less common than co-residential transitions except among single mothers in the US. As with residential transitions, mothers in the US experience more transitions than mothers in the UK for each type of relationship. Unmarried mothers often experience dating changes, although cohabiting mothers do so far less frequently than single mothers. More than half of single mothers in the UK and 70 per cent of single mothers in the US experience at least one transition. Across all family types, mothers with at least one transition are most likely to change partners twice, and large proportions have at least three dating transitions. These figures suggest high levels of partnership instability among unmarried mothers, especially for those who were not living with their child's father at the time of the birth.

Finally, as shown in Table 9.8, family complexity or multi-partner fertility, is a fairly common experience for children, especially children born in the US. At birth, about 22 per cent of all the US children are born to mothers who have had a child by a different father as compared with 8 per cent of all the UK children. In both countries, there is a notable difference across partnership types, with multi-partner fertility being more common among children born to unmarried mothers as compared with married mothers, and with the major gap being between married and unmarried mothers rather than between cohabiting and single mothers.

Table 9.7 Residential and dating transitions from birth to five years by partnership status at birth

	Unmarried													
	Married					Cohabiting					Single		All	
	UK	US	UK	US	UK	US	UK	US	UK	US	UK	US	UK	US
Number of residential transitions														
0	88.9	78.5	69.1	48.7	40.2	31.3	76.9	63.6						
1	6.7	14.5	16.3	21.3	36.2	39.4	13.4	20.6						
2	3.4	6.1	10.5	22.3	17.9	16.1	7.3	11.3						
3	0.8	0.2	2.5	5.4	3.3	11.3	1.6	3.4						
4	0.3	0.6	0.9	2.3	1.8	0.7	0.7	1.0						
5-10	0.0	0.0	0.7	0.0	0.6	1.2	0.3	0.2						
Total (%)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0						
Mean	0.17	0.30	0.52	0.91	0.92	1.14	0.37	0.58						
Number of dating transitions <sup>a</sup>														
0	95.2	83.2	84.6	70.8	47.3	28.7	86.8	70.5						
1	1.3	5.6	3.2	10.7	11.0	15.2	3.0	8.5						
2	1.6	8.2	4.5	13.0	20.1	24.9	4.6	12.3						
3	0.9	1.6	2.7	3.4	6.5	13.9	2.0	4.3						
4	0.5	0.1	2.9	1.2	9.7	6.1	2.2	1.5						
5+	0.5	1.3	2.2	0.8	5.4	11.2	1.5	3.0						
Total (%)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0						
Mean	0.12	0.34	0.45	0.56	1.46	1.87	0.36	0.67						
Total number of transitions <sup>b</sup>														
0	90.2	78.5	72.9	48.7	12.7	0.2	76.5	57.8						
1	2.3	0.3	4.1	3.9	34.7	18.9	6.7	4.5						
2	3.5	8.9	8.9	18.0	18.1	21.4	6.6	13.1						
3	1.8	6.7	4.7	16.8	8.3	27.5	3.3	12.6						
4	1.1	3.9	3.1	9.3	12.8	13.3	3.0	6.8						
5+	1.2	1.7	6.3	3.4	13.3	18.7	3.9	5.2						
Total (%)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0						
Mean	0.26	0.62	0.86	1.44	2.33	2.91	0.66	1.22						

Notes: Percentages are weighted, sample limited to households present at all waves where the mother is the main respondent (UK) or primary caregiver (US).

<sup>a</sup> Dating transitions are non-residential partnerships of unspecified duration (UK) or lasting at least a month (US) as reported retrospectively.

<sup>b</sup> Total transitions is the sum of residential and dating transitions where information on both is available.



**Table 9.8** *Multi-partner fertility at birth and post birth to age five*

Partnership status at birth	Multi-partner fertility at birth		Multi-partner fertility after birth	
	UK	US	UK <sup>a</sup>	US
Married	4.5	11.7	0.5	3.4
Cohabiting	14.7	38.7	2.4	10.1
Single	16.9	34.5	10.3	19.1
Total	9.1	21.6	2.4	7.7

*Notes:* Percentages are weighted, sample limited to households present at all waves where the mother is the main respondent (UK) or primary caregiver (US).

<sup>a</sup> UK figures may be underestimates as MCS does not permit identification of the parentage of new children not living in the household.

Between- and within-country differences in multi-partner fertility continue to increase over time; 2.5 per cent of mothers in the UK report having a child by a new father in the five years following the birth of the cohort child as compared with 8 per cent of mothers in the US. Although the gap between single and cohabiting mothers is much higher in the UK than in the US, the overall level is much higher in the US. Clearly, while family instability and complexity are common in both countries, the family lives of American mothers and their children are both less stable and more complex than those of their UK counterparts.

### 9.3.3 Changes in Parental Resources over Time

In this section we look at what happens to parental resources during the first five years following the child's birth in terms of how partnership status and stability are associated with trajectories in family income and mother's mental health.

Table 9.9 provides data on family income trajectories between the child's birth/infancy and age five by mother's partnership pathways as identified in Table 9.6. Two major trends hold across both countries and all relationship types: (1) marriage is better than cohabitation, which is still better than single parenthood, and (2) stability is better than instability. Mothers who remain stably married fare best, followed most closely by cohabiting mothers who subsequently marry their child's biological father. Single mothers also benefit from subsequent marriage. These mothers end with incomes close to their other married peers despite starting from a much lower initial level. Moving in with a partner increases income because the partner is likely to contribute earnings; but moving in with the biological father also has advantages over moving in with a new partner. In the UK, any form of partnership is economically advantageous, but in the US marriage is associated with greater economic returns than cohabitation.

Many different pathways make up the unstable categories, including periods of partnership of varying lengths and single parenthood, so trends in any of these categories are harder to discern. Still, stability seems to be beneficial. Single mothers who do not cohabit with a partner at any point start with lower incomes than single mothers who will have a partner at some point in the next five years, but their incomes are slightly higher at the five-year mark than those who experienced instability. Stably cohabiting couples also gain more over the five-year period than unstably cohabiting couples. This trend holds across the two countries, although overall income levels are generally somewhat higher in the US.

Stability is also associated with trajectories in mothers' mental health, as shown in Table 9.10, with stable partnerships being associated with better outcomes than unstable partnerships. For

Table 9.9 Mean annual household income at each wave by partnership pathways

	Mean annual household income <sup>c</sup>					
	9 months (UK)/1 year (US)		3 years		5 years	
	UK (£)	US (£)	UK (£)	US (£)	UK (£)	US (£)
Married at baseline						
Stably married	30 086	38 286	33 939	47 899	36 180	46 190
Unstably married <sup>a</sup>	23 095	21 741	21 788	22 806	20 205	23 289
Cohabiting at baseline						
Cohabiting stable	23 062	13 421	26 735	14 389	28 579	16 934
Cohabiting to married	25 285	20 412	29 656	20 571	31 412	24 348
Unstably cohabiting <sup>a</sup>	14 827	16 032	13 533	15 279	15 236	16 147
Single at baseline						
Single stable	7 603	11 060	8 484	11 696	10 132	12 654
Single to married	14 225	16 877	22 348	28 226	25 524	24 929
Single to cohabiting	9 519	12 306	14 483	8 731	18 886	14 268
Single to new partner	8 820	14 704	12 165	19 275	1 457	15 851
Unstably single <sup>b</sup>	8 621	12 834	9 590	13 705	10 010	12 402

Notes: Percentages are weighted, sample limited to households present at all waves where the mother is the main respondent (UK) or primary caregiver (US).  
<sup>a</sup> Residual category including married/cohabiting to lone/single parent, married/cohabiting with periods of separation and married/cohabiting to re-partnered.  
<sup>b</sup> Residual category includes single to new partner and single with periods of partnership.  
<sup>c</sup> US income is converted to pounds sterling using OECD purchasing power parities.

Table 9.10 Mothers' mental health problems at each wave by partnership pathways

	Mothers experiencing mental health problems (%)					
	9 months (UK)/1 year (US)		3 years		5 years	
	UK <sup>b</sup>	US <sup>d</sup>	UK <sup>c</sup>	US <sup>d</sup>	UK <sup>c</sup>	US <sup>d</sup>
Married at baseline						
Stably married	10.1	8.8	9.6	10.5	9.7	8.8
Unstably married <sup>a</sup>	16.1	31.9	22.5	36.2	21.0	28.6
Cohabiting at baseline						
Cohabiting stable	14.4	17.2	14.1	10.9	13.7	10.7
Cohabiting to married	11.5	7.4	13.2	17.8	12.2	15.2
Unstably cohabiting <sup>a</sup>	19.0	15.6	23.9	17.7	19.7	22.7
Single at baseline						
Single stable	21.1	19.3	25.5	31.6	25.0	8.7
Single to married	19.5	8.4	18.1	16.5	12.0	9.8
Single to cohabiting	15.9	14.8	19.2	14.3	20.5	12.9
Single to new partner	18.0	16.0	20.5	17.5	22.5	23.5
Unstably single	21.6	16.3	32.7	22.6	33.7	24.7

Notes: Percentages are weighted, sample limited to households present at all waves where the mother is the main respondent (UK) or primary caregiver (US).  
<sup>a</sup> Residual category including married/cohabiting to single parent, married/cohabiting with periods of separation and married/cohabiting to re-partnered.  
<sup>b</sup> Based on Rutter Malaise Inventory, score over 4 indicates mental health problems (UK).  
<sup>c</sup> Based on Kessler Psychological Distress Scale, score over 7 indicates mental health problems (UK).  
<sup>d</sup> Based on the Composite International Diagnostic Interview Short-Form (CIDI-SF).

each partnership status in both countries, instability is associated with a higher proportion of

*Table 9.11 Non-resident father involvement at each wave*

	9 months (UK)/1 year (US)		3 years		5 years	
	UK	US	UK	US	UK	US
<i>All fathers who were unmarried at birth</i>						
Lives with child full time	66.8	54.8	61.8	48.8	56.9	36.5
<i>Non-resident fathers</i>						
Ever sees child <sup>a</sup>	54.2	85.8	53.7	64.8	52.6	53.1
Sees child once a month or more	40.6	56.1	47.1	36.4	34.7	31.9
Makes regular contributions to child maintenance	19.0	17.5	19.8	17.3	24.8	12.3
Makes irregular contributions to child maintenance	9.7	15.1	8.0	22.1	8.7	34.0
No contribution to child maintenance	71.3	67.4	72.3	60.7	66.6	53.7
Formal child support (court order/CSA) <sup>b</sup>	–	–	–	–	12.7	29.7
Informal child support <sup>b</sup>	–	–	–	–	20.8	14.8
In-kind support	–	–	–	–	42.5	6.5
Mother on friendly terms with non-resident father	36.4	46.1	34.2	24.6	32.6	30.6
Non-resident fathers (N)	1142	572	1142	561	1142	564

*Notes:* Sample is limited to households present at all waves where the natural mother is the main respondent (UK) or primary caregiver (US) and the natural father was non-resident at all waves.

<sup>a</sup> UK mothers were asked if the father was in contact and if so, if he ever saw the child; US mothers were asked if the father had seen the child since birth or the previous interview, whichever was more recent. Any fathers seeing the child was coded as positive in both countries.

<sup>b</sup> Regular and irregular contributions to child maintenance are mutually exclusive categories (UK). CSA is Child Support Agency.

mental health problems. By the time the child is age five, stably married mothers are the least likely to have mental health problems, with similar levels in each country. Stably cohabiting mothers have higher rates of depressive symptoms than their married counterparts. Depression amongst mothers who were single at birth differs across the two countries. Stably single mothers in the UK have much higher rates of reported depression than their US counterparts, and in general single mothers in the UK report more depression than single mothers in the US.

### 9.3.4 Non-Resident Fathers' Involvement

Table 9.11 reports information on several aspects of non-resident fathers' engagement and involvement: whether he sees the child, whether he makes economic contributions to the child, and whether he and the mother get along with one another.

As shown in Table 9.11, the proportion of unmarried fathers who are living with their child declines steadily over time, dropping from 67 per cent to 57 per cent in the UK and from 55 per cent to 35 per cent in the US. The proportion of fathers who are living with their child at birth is higher in Table 9.11 than it is in Table 9.1, because Table 9.11 is based on mothers who completed all waves of data collection whereas Table 9.1 is based on all new mothers. Among non-resident fathers, the frequency of involvement is much higher among US fathers during the first year after the birth than it is among UK fathers, but this difference decreases over time so that by age five, the overall level of involvement is quite similar in the two countries. We should note that the sample of non-resident fathers in Table 9.11 changes over time as married

and cohabiting fathers move out of the household and as non-resident fathers move into the household.

Fathers' financial contributions follow a less clear trajectory. In the UK, non-resident fathers are somewhat more likely than US fathers to make regular contributions to their child's maintenance, while in the US non-resident fathers are more likely to make irregular contributions. By the time the child is five, around 35 per cent of non-resident fathers in the UK make some contribution to their child as compared with about 45 per cent of fathers in the US.

Formal child support is much more common in the US than in the UK. At age five nearly a third of non-resident fathers in the US pay child support as compared with only 13 per cent of fathers in the UK. Fathers in the UK are more likely to have informal arrangements and much more likely to provide in-kind support to mothers, which is relatively rare among non-resident fathers in the US. This partly relates to differences between the two countries in child support policy, including the greater use of child support orders and stricter enforcement of awards in the US. Although the data in Table 9.11 do not capture the full scope of fathers' contributions, they do suggest that a substantial portion of non-resident fathers contribute to their child's needs despite not living in the same household. Finally, relations between mothers and non-resident fathers are somewhat worse at age five than they are during infancy; only about 30 per cent of mothers in both countries report being on friendly terms with the non-resident father when the child is five years old.

#### 9.4 SUMMARY AND CONCLUSION

This chapter posed four questions regarding the nature of parental partnerships and resources in families formed by unmarried parents, how these changed over time and how they differed between the US and the UK. Our examination revealed both similarities and differences. For the first question – *What is the nature of parental partnerships, and what are parents' characteristics and capabilities around the time their child is born?* – we found that, in both countries, a majority of unmarried parents are in what appear to be committed unions at the time their child is born, although these couples are much more disadvantaged than married parents. An important difference between the two countries lies in the nature of cohabiting unions, which are closer to married couples in the UK and closer to single mother families in the US (see also Chapter 7 in this volume). For the second question – *What happens to parents' partnerships over time?* – we found that families formed by unmarried parents are less stable than families formed by married parents, with US couples showing much higher levels of instability than UK couples. Higher levels of instability lead to more partnership transitions and more family complexity for US children. In both countries, the partnership gradient is similar, with the lowest levels of instability and complexity seen among mothers who are married at birth and the highest levels seen among single mothers. For the third question – *What happens to mothers' resources, particularly family income and her mental health?* – we found that mothers' resources are associated with their partnership trajectories. While stably married mothers and cohabiting mothers that later marry see their family incomes go up over time, single mothers and mothers who dissolve their unions see their incomes go down. New partnerships, cohabitations or marriages increase mothers' income in the UK, and entering marriage provides similar benefits in the US. A similar pattern is observed for mothers' mental health, with mothers in stable unions experiencing better mental health than

mothers in unstable partnerships. Stable single motherhood is also associated with fewer mental health problems in the US but not in the UK. Finally, for the fourth question – *What happens to non-resident fathers' involvement over time?* – we find that contributions of time and money are low and consistent among non-resident fathers in the UK, whereas they start high and decline among fathers in the US.

In conclusion, these analyses show that the partnership contexts within which children are born and live matter. Cohabiting families with young children tend to be more unstable, vulnerable and impoverished than their married counterparts, and single mothers and their children tend to have lower levels of wellbeing than married or cohabiting families (but not consistently so). Moreover, parent's marital status at birth is a reasonably good proxy for whether children will grow up in more or less stable or more or less complex households. A theme emanating from the comparative findings is the greater cleavage in the US between living with married parents versus unmarried parents. Living in a cohabiting-parent family is associated with fewer positive benefits, as compared to living with a single mother, in the US than it is in the UK. Similarly, marriage, particularly a continuing stable marriage, is associated with more positive benefits, as compared with living in a cohabiting-parent family, in US families than it is in British families. Unmarried parenthood would seem to matter in both the US and the UK but to somewhat different degrees. Whether this is the case in other nations with different cultural and welfare regimes and where, for example, the educational gradient in non-marital childbearing is less than in the US or the UK, such as France, Norway and the Netherlands (see Perelli-Harris et al., 2010), would be interesting to know. Hopefully, information being collected in the growing number of national birth cohort studies will further contribute to our understanding of this development in family life.

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## NOTE

1. These websites can be found for the MCS on <http://www.cls.ioe.ac.uk> and the FFS at <http://www.fragilefamilies.princeton.edu/index.asp>.

## REFERENCES

- Akerlof, G., Yellen, J., and Katz, M. (1996). An analysis of out-of-wedlock childbearing in the United States. *Quarterly Journal of Economics*, **129**(3), 277–317.
- Curtin, S.C., Ventura, S.J., and Martinez, G.M. (2014). Recent declines in nonmarital childbearing in the United States. NCHS data brief, No. 162. Hyattsville, MD: National Center for Health Statistics.
- Duncan, G.J. and Magnuson, K.A. (2005). Can family socioeconomic resources account for racial and ethnic test score gaps? *The Future of Children*, **15**(1), 35–52.
- Fomby, P. and Cherlin, A. (2007). Family instability and child well-being. *American Sociological Review*, April, **72**, 181–204.
- Gill, D. (1977). *Illegitimacy, Sexuality and the Status of Women*. London: Basil Blackwell.
- Guzzo, K.B. (2014). New partners, more kids: Multiple-partner fertility in the United States. *The Annals of the American Academy of Political and Social Science*, **654**, 66–86.
- Hansen, K., Johnson, J., Joshi, H. et al. (2012). *Millennium Cohort Study First, Second and Third Surveys: A Guide to the Datasets* (7th edn). London: Centre for Longitudinal Studies, Institute of Education.
- Härkönen, J., Bernardi, F., and Boertien, D. (2017). Family dynamics and child outcomes: An overview of research and open questions. *European Journal of Population*, **33**, 163–84.
- Hartley, S.F. (1975). *Illegitimacy*. Berkeley, CA: University of California Press.
- Heckman, J. J. (2006). Skill formation and the economics of investing in disadvantaged children. *Science*, **312**, 1900–12.
- Heuveline, P., Timberlake, J.M., and Furstenberg, F.F. (2003). Shifting child rearing to single mothers: Results from 17 western nations. *Population and Development Review*, **29**, 47–72.
- Kiernan, K. (2001). The rise of cohabitation and childbearing outside of marriage in Western Europe. *International Journal of Law, Policy and the Family*, **15**(1), 1–21.
- Kiernan, K. (2004). Unmarried cohabitation and parenthood in Britain and Europe. *Journal of Law and Policy*, **26**(1), 33–55.
- Kiernan, K. and Estagah, V. (1993). *Cohabitation: Extra-marital Childbearing and Social Policy*. London: Joseph Rowntree Foundation and Family Policy Studies Centre.
- Lesthaeghe, R. and Surkyn, J. (1988). Cultural dynamics and economic theories of fertility change. *Population and Development Review*, **14**(1), 1–45.
- McLanahan, S. (2011). Family instability and complexity after a non-marital birth: Outcomes for children in fragile families. In Marcia J. Carlson and Paula England (eds), *Social Class and Changing Families in an Unequal America*. Stanford, CA: Stanford University Press, pp. 108–33.
- McLanahan, S. and Jacobsen, W. (2015). Diverging destinies revisited. In P. Amato, A. Booth, S. McHale, and J. Van Hook (eds), *Diverging Destinies: Families in an Era of Increasing Inequality*. New York: Springer, pp. 3–24.
- McLanahan, S., Tach, L., and Schneider, D. (2013). The causal effects of father absence. *Annual Review of Sociology*, **39**, 399–427.
- Murray, C. (1984). *Losing Ground: American Social Policy 1950–1980*. New York City: Basic Books.
- Osborne, C. and McLanahan, S. (2007). Partnership instability and child wellbeing. *Journal of Marriage and Family*, **69**(4), 1065–83.
- Perelli-Harris, B., Sigle-Rushton, W., Kreyenfeld, M.R., Lappegård, T., Keizer, R., and Berghammer, C. (2010). The educational gradient of childbearing within cohabitation in Europe. *Population and Development Review*, **36**(4), 775–801.
- Reichman, N., Teitler, J., Garfinkel, I., and McLanahan, S. (2001). Fragile families: Sample and design. *Children and Youth Services Review*, **23**(4/5), 303–26.
- Shonkoff, J.P. and Phillips, D. (2000). *From Neurons to Neighborhoods: The Science of Early Childhood Development*. Washington, DC: National Academy Press.
- Sobotka, T. and Toulemon, L. (2008). Overview chapter 4: Changing family and partnership behaviour: Common trends and persistent diversity across Europe. *Demographic Research*, **19**(6), 85–138.
- Wu, L. and Martinson, B. (1993). Family structure and the risk of a pre-marital birth. *American Sociological Review*, **58**(2), 210–32.

Wu, L., Bumpass, L., and Musick, K. (2001). Historical and life course trajectories of non-marital childbearing. In L. Wu and B. Wolfe (eds), *Out of Wedlock: Causes and Consequences of Nonmarital Fertility*. New York: Russell Sage Foundation, pp. 3–48.

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## 10. Ethnic intermarriage and partnership in Australia

*Ann Evans*

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### 10.1 INTRODUCTION

With its emphasis on the interlinked nature of the timing and occurrence of life events, the lifecourse perspective is ideally suited for looking at migration and partnering. For children of migrants, their own age at migration as well as the context in which the move occurred can have a significant impact on the timing and nature of their later family formation (Choi and Tienda, 2018; Clark et al., 2009). For adults, migration, marriage and family formation are often parts of the same family formation process (Kulu and Milewski, 2007). One aspect of migration and marriage that has garnered much sociological interest is the study of intermarriage or marriage between people of different ethnicities.

At the micro level, research has examined various aspects of interethnic couples including whether relationship quality and well-being are different compared to co-ethnic couples (Dribe and Lundh, 2012; Fu and Wolfinger, 2011; Hohmann-Marriott and Amato, 2008; Wilkins et al., 2019). However, most scholarly interest in intermarriage has been from a macro-perspective. There has been keen sociological interest in the trends and patterns of intermarriage due to its potential to create positive cultural and socio-economic change (Kalmijn, 1998). Intermarriage has been heralded as the fastest way to break down barriers between ethnic groups and marriages between foreign- and native-born populations are seen as an indicator of assimilation and successful integration of immigrants (Adserà and Ferrer, 2015; Alba and Nee, 2003; Khoo et al., 2009; Walker and Heard, 2015).

In explaining rates of intermarriage, the main explanatory factors can be divided into those relating to choice and preference, and those relating to constraints and opportunities (Gray, 1987). Preference relates to the role of cultural norms and preferences that people have regarding interaction and marriage with individuals outside their ethnicity as well as the influence of third parties (Kalmijn, 1998; Kalmijn and Van Tubergen, 2010). Parents and relatives may prefer, and exert pressure, for their children to have endogamous marriages. Similarly, people may have a preference to marry within their own religious or cultural group, and this is often tied to ethnicity.

Explanations regarding constraints and opportunities focus on the meeting and partnering opportunities, as meeting someone from outside of one's own ethnic group is a necessary precondition for partnering (Kalmijn and Van Tubergen, 2010). Typically, structural explanations focus on group size but also residential segregation. If there are very few people of one ethnic group in the host country, then this makes it more difficult to find a partner and therefore increases the probability of intermarriage. However, it has also been suggested that due to the decreasing cost of international travel, electronic communication and the ability to sponsor marriage partners from overseas, this is no longer a limiting factor to the same extent,



as migrants can find and sponsor a partner or spouse from their country of origin (Khoo, 2003; Khoo et al., 2009).

There is a long history of studying intermarriage in Australia. Studies on the early wave of immigrants after World War II showed that among the European migrants, those born in Italy and Greece had lower rates of intermarriage with native-born Australians than migrants from Western or Eastern European countries such as the Netherlands or Poland (Price and Zubrzycki, 1962), suggesting that their integration was slower. Even in the second generation of those with a Southern European and Middle Eastern background, migrants had lower intermarriage rates than those of Western European background, although there was an increase in the intermarriage rate from the first to the second generation (Jones and Luijckx, 1996; Khoo, 2011). With the increasing rate of non-European migration since the 1980s and 1990s, it is unclear whether the previous patterns of intermarriage will be maintained given the cultural distance between some Asian countries, which are now the major sources of migrants, and Australia.

This chapter provides an overview of intermarriage in Australia through the lens of two different data sources, marriage registration and census data. These two sources allow us to develop an understanding of the interethnic pattern of marriages that occur in Australia (marriage registration) as well as the marriage behaviour of migrants to Australia (census). The census data also allow us to include cohabiting relationships and to explore socio-economic covariates. Linked administrative data are used to increase the power of the census data.

## 10.2 IMMIGRATION TRENDS IN AUSTRALIA: NOW AND THEN

Australia has a long history of migration since European settlement in the 18th century. A clearly defined migration policy aimed at attracting migrants from specific countries or with specific skills was first introduced after World War II. However, the nature of the migration policy, as well as the ethnic composition of migrants has changed substantially over time. After World War II, the main impetus of the migration policy was to attract migrants to increase Australia's population in order to stimulate economic development and defend the country in the event of another war (Spinks, 2010). Arthur Calwell, the first Minister for Immigration, pushed for increased migration under a 'populate or perish' sentiment. However, in the early years, the desire was still to have mostly immigrants from the United Kingdom, and addressing the parliament in 1946, Calwell said: 'It is my hope that for every foreign migrant there will be 10 from the United Kingdom.' However, Great Britain itself had high labour demands after the war and was unable to provide the volume of migrants that Australia had hoped for (Jupp, 2001). As a result, Australia began accepting immigrants from a larger number of European countries, primarily Italy and Greece, but also the Netherlands, Poland and Germany.

In the 1970s migration restrictions for non-Europeans, the so-called 'white-Australia policy', were relaxed and this led to a diversification in the sources of countries for migrants (Khoo et al., 2008). Since the 1980s and 1990s, the focus of Australia's immigration policy has been on selecting migrants who fit specific skilled labour needs of Australia, along with the provision of family visas. This has led to a shift in the ethnic composition of migrants from Europe to Asia (Spinks, 2010). The changing ethnic composition of migrants in recent history can clearly be seen in the 2016 Census as the proportion of the overseas born hailing from the

United Kingdom decreases dramatically after the 1980s and as the proportion from China and India rises (ABS, 2019).

For migrants settling permanently in Australia there are different pathways to arrival. One pathway is to apply for permanent residency as a skilled migrant. This pathway has strict conditions including having a qualification related to a 'nominated skilled occupation list', age and health requirements as well as English language requirements. The primary applicant is the person who lodges the application and who meets the migration requirements, but they may also bring in their partner or children as secondary applicants who migrate by virtue of their relationship with the primary applicant (Boucher, 2007). Adult migrants can also settle in Australia under the Family visa stream if they are a de facto partner, or spouse of a permanent resident or citizen of Australia. De facto partners can apply if they have lived together for one year before applying for the visa. Unlike the case of the United States, there is no restriction on the length of time immigrants have resided in the country before they can sponsor a partner to join them, so long as they themselves are permanent residents or citizens.

### 10.3 DATA SOURCES FOR STUDYING INTERMARRIAGE

The majority of studies on intermarriage in Australia have used marriage registration data or census data (Khoo et al., 2009). Both sources of data have their own advantages as well as important limitations. Marriage registration data record the characteristics of the couple for marriages occurring in any one year. Recorded characteristics include the country of birth of the bride and groom,<sup>1</sup> their ages, whether they lived together before marrying, as well as their previous marital history. The benefit of marriage registration is that it records the characteristics of both parties in all marriages that occur in Australia in any given year. However, a limitation of marriage registration is that it does not include cohabitations, now an important form of partnership, and also does not give us any context regarding the migrants including their age at migration, and the type of visa stream they entered the country under. We are not able to distinguish if an overseas-born person arrived in Australia as a child in the past or as an adult migrant more recently.

Census data contain more information about relationships including cohabitation as well as marriage, the country of birth of both partners, their ancestry and the countries of birth of their parents. They also include additional information on education and other socio-economic factors. A major limitation of the census is that it does not distinguish between marriages that occurred in Australia or overseas, and similar to marriage registration data we do not know the context under which adult migrants arrived in Australia, although we do know their age at arrival. Using census data, a low rate of intermarriage with Australian-born persons could, for example, be due to a low propensity to intermarry, or because of a high propensity for migration of family units such as married or cohabiting couples together (Khoo et al., 2009). In addition, the relationships observed in a census are those that have survived separation and death, although the potential selection bias can be minimized by looking at younger couples (Adserà and Ferrer, 2015).

To overcome many of the limitations of the census this chapter uses the Australian Census and Migrants Integrated Dataset (ACMID), which links data from Permanent Migrant Settlement from the Department of Social Services with records from the 2016 Australian Census of Population and Housing. The 2016 ACMID contains information on all people

who have migrated to Australia under a permanent Skill, Family, Humanitarian and Other Permanent stream visa between 1 January 2000 and 9 August 2016. Using these data, it is possible to examine the factors related to partnering with an Australian-born person, and to focus on people who migrated as adults rather than as children or adolescents. The life cycle timing of migration has a large impact on intermarriage as the choices and opportunities available to people who migrate as children or adolescents are very different from those who migrate as adults (Choi and Tienda, 2018). Only those who migrated to Australia between ages 18 and 39 years old are selected and the analysis is restricted to those who came in either as skilled migrants or as sponsored partners under the Family visa stream, which are, as noted previously, the two main streams by which migrants can gain permanent residency in Australia. The sample includes just over 462,000 men and 562,000 women.

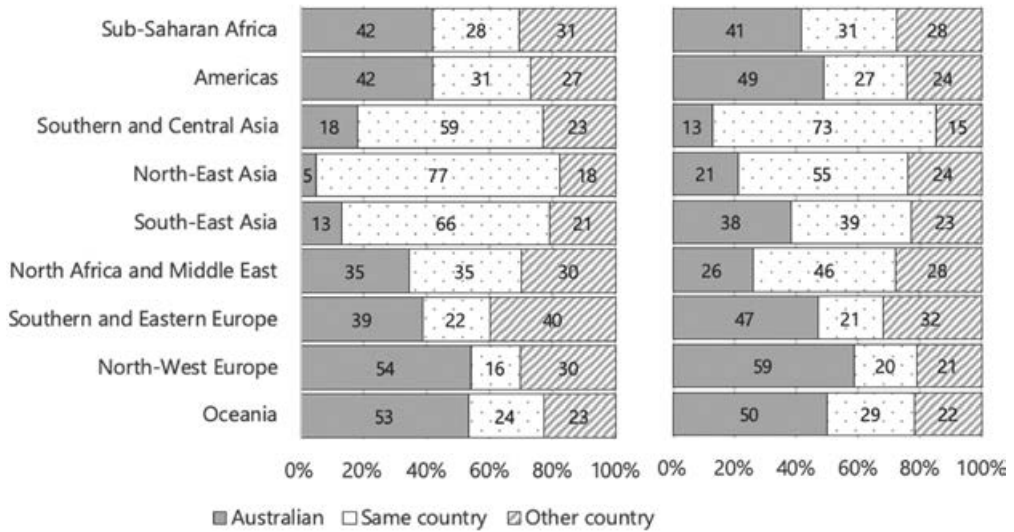
## 10.4 INTERETHNIC MARRIAGES IN AUSTRALIA

In 2017,<sup>2</sup> 37,000 marriages included an overseas-born male. Of these, 31 per cent married an Australian-born woman, 44 per cent someone from their own country and 25 per cent someone from another country. In the same year, 41,000 foreign-born women got married. Of these, 37 per cent married an Australian-born man, 40 per cent married someone from the same country as them, and 23 per cent married someone from another country. On the whole, overseas-born women are a little more likely to marry an Australian-born male than an overseas-born man is likely to marry an Australian-born woman (ABS, 2018).

For men and women who married in 2017, Figure 10.1 shows the ethnic composition of their spouses, based on their own region of birth. There are large differences by region of birth as well as gender. Men and women from Oceania (largely composed of those from New Zealand) as well as from North-West Europe were the most likely to marry an Australian-born spouse.

For some regions of birth, such as Southern and Eastern Europe, North Africa and the Middle East as well as Southern and Central Asia, men are more likely than women to marry an Australian. For other regions of birth including South-East Asia and North-East Asia, women are more likely than men to marry an Australian partner. Those marrying someone from their own country of birth varied greatly across regions, with Asian regions standing out. In these Asian regions, men are most likely to marry someone from their own country. The same pattern is evident for women but there is more variation, particularly for South-East Asia where women are far more likely than men to marry an Australian-born man or a man from a different country.

These patterns can be explored further at the country level (Table 10.1). Within Asia, the regions where recent migration is growing, there is substantial variation between countries. Each of the countries in South-East Asia exhibits a difference in intermarriage with Australian-born men and women. However, for the Philippines this difference is striking. Over half (52 per cent) of all marriages of Philippine-born women are to Australian-born men compared to 21 per cent of marriages for Philippine-born men. Marriages of Chinese-born men in Australia are nearly all with Chinese-born women (89 per cent) whereas 16 per cent of Chinese-born women marry an Australian-born man and 19 per cent marry a man from another overseas country. Men from India and Lebanon are more likely than women from these countries to marry an Australian-born woman or a woman from another country.



Source: Data derived from ABS (2018).

Figure 10.1 Percentage of men and women who married a person who was Australian born, from the same country or from another country, by region of birth

With these data we get a glimpse of the different gender and cultural practices around marriage for people from these countries. Some – India and Lebanon – constrain women’s selection of mates. Whereas China shows very strong ethnic preferences for mates, especially for men. With regard to religion, we only know if the marriage ceremony was performed by a minister of religion or not. For all marriages in Australia, 22 per cent were performed by a minister of religion. This compares to 16 per cent for marriages involving Chinese men and 14 per cent for marriages involving Indian men. For Lebanese-born individuals, the respective figures are 64 per cent for women and 71 per cent for men.

Of course, the data do not give us much context for these marriages, except that they happened in Australia. We do not know where the couple met, how they met, or the ethnic background of the couples. For instance, a Chinese woman could marry a man born in Australia whose parents were born in China. Or she could marry a man born in the United States whose parents were born in China. Each of these scenarios would result in different classifications, while in fact they are both of Chinese heritage. We do not know if the couples who married here met in Australia, while visiting their home country, or while travelling elsewhere.

What we do know is whether this marriage is a first marriage. For men getting married in Australia those born in the Philippines, Malaysia and Australia were the most likely to be marrying for the first time. Close to one-half (41 per cent) of men born in Vietnam and marrying in Australia were getting married for the second or third time. UK-born, Italian and Greek men were also likely to be remarrying. Remarriage is lower generally for women but high for women from the United Kingdom (35 per cent). These patterns to some extent reflect the migration experience in Australia with those from the United Kingdom and Southern Europe

*Table 10.1 Intermarriage indicators 2017, spouse country of birth, remarriage, cohabitation prior to marriage, age at marriage, various countries*

Country/ Region of birth of person	Men										Women				
	Spouse country of birth					Spouse country of birth					Spouse country of birth				
	Australia	Same overseas country	Different country	First marriage (%)	Cohabitated prior to marriage (%)	Median age	Total N	Australia	Same overseas country	Different country	First marriage (%)	Cohabitated prior to marriage (%)	Median age	Total N	
Oceania and Antarctica	79	1	20	81	83	32.0	79 629	82	1	16	83	84	29.9	75 481	
Australia	80	n/a	20	81	84	31.9	75 453	84	-	16	83	84	29.8	71 986	
New Zealand	57	22	21	78	86	34.0	3 230	55	26	19	78	86	31.7	2 673	
North-West Europe	54	16	30	66	87	37.4	7 142	59	20	21	70	89	34.1	5 554	
United Kingdom	57	17	26	63	88	38.4	5 315	59	22	19	65	90	35.0	3 983	
Southern and Eastern Europe	39	22	40	69	77	34.8	2 167	47	21	32	71	78	32.5	2 242	
Greece	44	25	31	63	80	36.7	180	54	35	11	68	78	31.8	127	
Italy	39	14	47	64	82	37.6	447	47	28	25	80	82	32.7	220	
North Africa and Middle East	35	35	30	77	58	32.1	2 369	26	46	28	78	55	29.3	1 805	
Lebanon	59	21	20	71	56	30.8	487	42	41	17	72	57	29.1	250	
South-East Asia	13	66	21	75	72	32.1	6 112	38	39	23	76	71	31.0	10 356	
Malaysia	13	51	36	88	73	31.0	1 222	27	45	28	86	72	30.2	1 375	
Philippines	21	66	13	82	65	31.8	991	52	26	22	81	68	31.9	2 560	
Viet Nam	8	84	8	59	79	33.9	2 076	25	60	15	66	77	29.5	2 915	
North-East Asia	5	77	18	82	82	29.8	6 559	21	55	24	81	81	29.7	9 199	
China	3	89	8	79	84	29.2	4 344	16	65	19	76	82	29.1	5 954	

	Men						Women						
	Spouse country of birth			Spouse country of birth			Spouse country of birth			Spouse country of birth			
Southern and Central Asia	18	59	23	81	65	28.9	4 161	13	73	15	63	27.3	3 356
India	18	61	21	79	65	29.0	2 291	11	79	10	62	27.8	1 770
Americas	42	31	27	77	82	32.6	2 534	49	27	24	86	30.7	2 911
United States	63	6	32	70	73	33.8	754	69	6	26	76	30.5	768
Sub-Saharan Africa	42	28	31	78	73	32.2	2 266	41	31	28	73	29.7	2 021
South Africa	56	18	26	76	77	32.1	1 036	59	21	21	77	29.9	924
Total	64	15	22	79	81	32.0	112 939	67	15	19	81	30.1	112 925

Note: Due to the randomization process applied to small cells for confidentiality purposes, components may not add to total.

Source: ABS (2018).

more likely to have been in Australia longer, be older, and therefore be at increased risk of divorce and subsequent remarriage.

Finally, using the marriage registration data we are able to look at the percentage of couples who lived together prior to marriage. For all Australian marriages, 81 per cent of couples cohabited prior to marriage. We see lower rates of cohabitation prior to marriage for men and women born in Lebanon and India, however for all groups over half of all marriages are preceded by cohabitation. We do not know how long these cohabitations were for or if the couple were actually married by law or custom overseas before living together in Australia. So, while registration data provide very useful information about marriages, they tell us little about the lives of migrants and the context of their intimate relationships.

## 10.5 INTERETHNIC PARTNERSHIPS OF MIGRANTS

Taking a different lens, we are able to examine partnership formation of migrants. Here logistic regression is conducted on data from the ACMID to explore differences in the probability of having an Australian-born partner. The analysis is conducted separately for men and women, and the outcome of interest is whether the migrant has a *de facto* partner or spouse who was born in Australia. The analysis controls for type of visa, age at arrival and year of arrival.

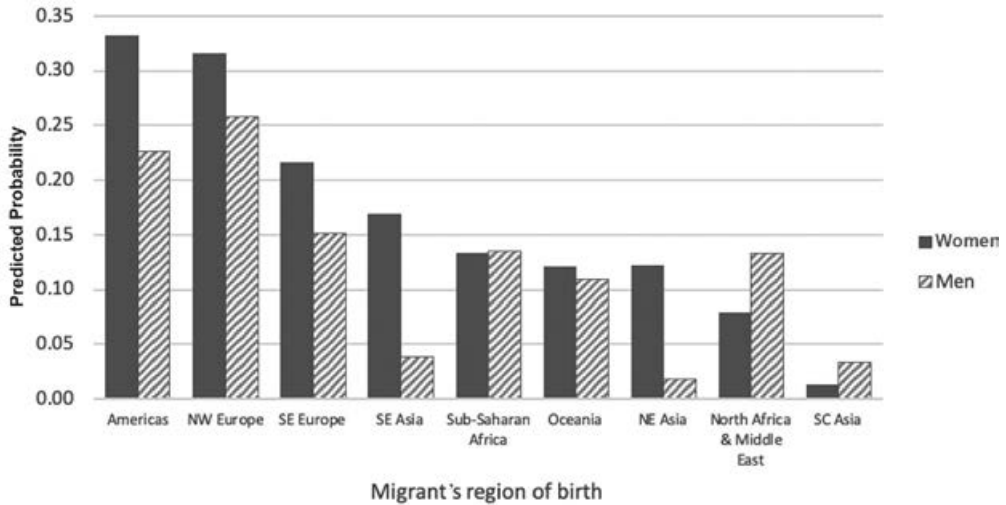
Overall, 12 per cent of migrant men and 15 per cent of migrant women have an Australian-born spouse or *de facto* partner. As this dataset only includes recent arrivals, since 2000, it does not reflect the same population as the marriage registration data. In terms of the countries of origins, there are high proportions who come from Asia, with small differences between male and female migrants.

There are gender differences in the pathway in which the migrants came to Australia. Men are most likely to have come as a primary applicant of a Skilled migration visa (60 versus 26 per cent). Whereas women are most likely to have come as a partner sponsored by an Australian permanent resident or citizen (44 versus 25 per cent). Women are more likely than men to be a secondary applicant of a Skilled migrant, most likely a spouse or dependent adult daughter (30 versus 15 per cent). So, already we see that women are more likely to arrive in Australia as a spouse than are men.

For ease of interpretation, the predicted probability of a migrant being partnered with an Australian-born person at the time of the 2016 Census is shown in Figure 10.2. The predicted probability is shown by region of birth, with the results for men and women modelled separately. There are large differences not only by region of birth but also by gender.

For both sexes, migrants from the Americas and North-West Europe are the most likely to be partnered with an Australian-born person at the time of the census. For both North-West Europe and the Americas (primarily the United States), there is extensive travel in both directions, with Australians going abroad as well as foreigners coming to Australia for work, study or tourism, in which case a relationship could be formed (Khoo, 2001). In addition, it is an indication of the social and cultural similarities between people from North-West Europe and North America and Australia (Khoo et al., 2009).

For South-East Europe, the probability of being partnered with an Australian-born person is about 21 per cent for women and 15 per cent for men. Although their partners were born in Australia, in many cases the ancestry of the partners was Southern European and they are the second generation from Southern Europe that arrived in the 1950s and 1960s (Khoo,



Source: Author's calculations from the 2016 Australian Census and Migrants Integrated Dataset.

Figure 10.2 Predicted probability of having an Australian-born de facto partner or spouse, by region of birth

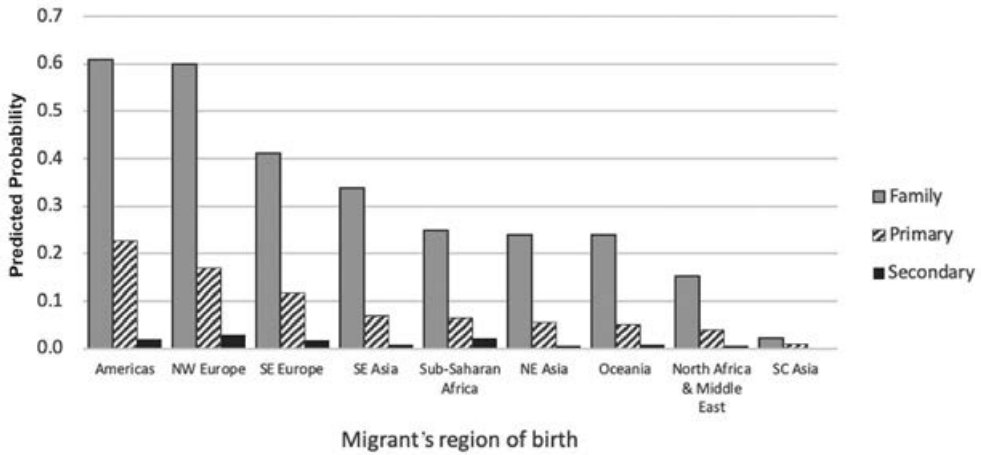
2001). For South-East Asia and North-East Asia, very large gender differences are evident. Women are more likely to have an Australian-born partner compared to their male peers. In contrast, for the Middle East and North Africa, we see that men are more likely to marry an Australian-born person compared to women. Khoo et al. (2009) suggest this is due to differences in gender roles in Asian and Middle Eastern families. These patterns reflect what we see from the registration data, though the gender differences are perhaps more stark.

The pathway through which migrants come to Australia is another very important determinant of intermarriage or inter-partnering with an Australian-born person. To explore this further, Figure 10.3 shows the interaction for the visa stream and region of birth in the probability of having an Australian-born partner. We expect that those who come on a family-partner visa to be the most likely to be partnered with an Australian-born person. However, a partner visa can be sponsored by an Australian permanent resident or citizen, so if the partner resident in Australia is a first-generation migrant themselves, they form a chain migration. The highest probability of having an Australian-born partner is for women from the Americas (primarily the United States) and North-West Europe. For the other regions of birth, the probabilities are significantly smaller, suggesting that a large proportion of family-partner visas are sponsored by first-generation migrants rather than those born in Australia, in a form of chain migration.

For women who settled in Australia as skilled migrants, where they were the primary applicants, the predicted probability of having an Australian-born de facto partner or spouse is relatively small. It is possible that if these women are selected for the Skilled stream because of their education and occupation they may have lower partnership rates overall. It is also possible that they brought a male partner with them as a secondary applicant.

The lowest rate of inter-partnering with Australians is among those who arrived as secondary applicants to a skilled migrant. This is not surprising, as these are women that migrated as





Source: Author's calculations from the 2016 Australian Census and Migrants Integrated Dataset.

Figure 10.3 Predicted probability of having an Australian-born de facto partner or spouse, by visa stream, region of birth, women

a couple or family unit. If, in the census, they were partnered with an Australian-born person it would indicate that their initial relationship had ended leaving them free to re-partner with a different person.

For women from North-East Asia, primarily China, and South-East Asia including the Philippines, there is a long history of migration for marriage and many of these may be women who have migrated on a prospective spouse or de facto visa, sponsored by Australian-born men. Between 2001 and 2011, for example, the Philippines was the country where the highest number of people entered Australia as fiancés on a prospective spouse visa (Lyneham and Richards, 2014).

### 10.6 DISCUSSION

Migrating to another country and forming a partnership are both important life events. Some people move to Australia to start a life with their spouse or partner, whereas others may meet someone abroad or in Australia while they are holidaying, working or studying. These different pathways are highly gendered and heterogeneous in terms of ethnicity and this affects the probability of intermarriage or inter-partnership with an Australian-born person.

In this chapter it is evident that restrictive migration policies affect intermarriage in countries such as Australia. The pathways by which to enter are limited and the state imposes restrictions on who can enter the country and under what conditions. This has important implications for the union formation of migrants (Strasser et al., 2009). As immigration control has become stricter, marriage or partner migration may be seen as an 'easier' migration path (Törnngren et al., 2016). This is especially the case for women, given the relatively low percent-

age who settle in Australia as primary applicants on a ‘skilled’ visa. Women are more likely to be secondary applicants or sponsored by an Australian-born partner.

Australia is unique in that it is physically located in Asia but has Anglo-Celtic history and culture. In Australia there is a racial hierarchy or sliding scale of desirability with regards to which immigrant groups are more likely to be intermarried with Australian-born people (Childs, 2019). There is an important distinction between white immigrants, particularly from Europe or English-speaking countries, and those from Asia or Africa, which is evident in the marriage registration data in Australia. Dunn et al. (2004) find that Australians are significantly more comfortable with a relative marrying someone of Italian or British background than they are for someone of Asian background. Childs (2019) also finds Australians are open to marriages between an Asian woman and Australian man but not the other way around.

In addition to immigrant characteristics such as age at migration and education, as well as the availability of potential partners in the local marriage market, the cultural proximity to the host country is a key determinant of the degree of intermarriage (Adserà and Ferrer, 2015; Kalmijn, 1998). The marriage market can be local but can also include the influence of relatives and friends in countries of origin. Therefore, the complexity of mate selection needs to be considered to fully understand intermarriage patterns. For first-generation migrants in this study from particular ethnicities including South Central Asia, we see evidence of segmented assimilation.

In terms of the lifecourse, marriage and partnership formation can be facilitated by migration or disrupted by migration (Adserà and Ferrer, 2015). This can have very different impacts on the timing of relationship formation in relation to other life events. Compounded with the differential effects of country of origin and gender, the interplay between marriage and movement can have lifelong consequences not only on partnerships but also to fertility that may, or may not, arise from these relationships.

## NOTES

1. In 2017 same-sex marriages were not legal in Australia so all marriages are assumed to be between a man and a woman.
2. Ibid.

## REFERENCES

- ABS (Australian Bureau of Statistics) (2018), *Marriages and Divorces Australia 2017, Catalogue No. 3310.0*, Canberra: Australian Bureau of Statistics.
- ABS (Australian Bureau of Statistics) (2019), 2016 Census Quickstats. [https://quickstats.censusdata.abs.gov.au/census\\_services/getproduct/census/2016/quickstat/036?opendocument](https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/036?opendocument). Accessed 29 August 2019.
- Adserà, A. and A. Ferrer, (2015), ‘Immigrants and demography: Marriage, divorce, and fertility’. In B.R. Chiswick and P.W. Curtin (eds), *Handbook of the Economics of International Migration* (Vol. 1A). Amsterdam: North Holland, pp. 315–74.
- Alba, R. and V. Nee, (2003), *Remaking the American Mainstream: Assimilation and Contemporary Immigration*. Cambridge, MA: Harvard University Press.
- Boucher, A. (2007), ‘Skill, migration and gender in Australia and Canada: The case of gender-based analysis’, *Australian Journal of Political Science*, **42** (3), 383–401.

- Childs, E.C (2019), 'Mixed matters in Australia', *Journal of the Study of Race, Nation and Culture*, **25** (3), 424–38.
- Choi, K.H. and M. Tienda (2018), 'Intermarriage and the lifecycle timing of migration', *International Migration Review*, **52** (3), 929–62.
- Clark, R.L., J.E. Glick, and R.M. Bures (2009), 'Immigrant families over the life course: Research directions and needs', *Journal of Family Issues*, **30** (6), 852–72.
- Dribe, M. and C. Lundh (2012), 'Intermarriage, value context and union dissolution: Sweden 1990–2005', *European Journal of Population/Revue Européenne de Démographie*, **28** (2), 139–58.
- Dunn, K.M., J. Forrest, I. Burnley, and A. McDonald (2004), 'Constructing racism in Australia', *Australian Journal of Social Issues*, **39** (4), 409–30.
- Fu, V.K. and N.H. Wolfinger (2011), 'Broken boundaries or broken marriages? Racial intermarriage and divorce in the United States', *Social Science Quarterly*, **92** (4), 1096–117.
- Gray, A. (1987), 'Intermarriage: Opportunity and preference', *Population Studies*, **41** (3), 365–79.
- Hohmann-Marriott, B.E. and P. Amato (2008), 'Relationship quality in interethnic marriages and cohabitations', *Social Forces*, **87** (2), 825–55.
- Jones, F.L. and R. Luijckx (1996), 'Post-war patterns of intermarriage in Australia: The Mediterranean experience', *European Sociological Review*, **12** (1), 67–86.
- Jupp, J. (ed.) (2001), *The Australian People: An Encyclopedia of the Nation, Its People and Their Origins*. Cambridge: Cambridge University Press.
- Kalmijn, M. (1998), 'Intermarriage and homogamy: Causes, patterns, trends', *Annual Review of Sociology*, **24** (1), 395–421.
- Kalmijn, M. and F. Van Tubergen (2010), 'A comparative perspective on intermarriage: Explaining differences among national-origin groups in the United States', *Demography*, **47** (2), 459–79.
- Khoo, S.-E. (2001), 'The context of spouse migration to Australia', *International Migration*, **39** (1), 111–32.
- Khoo, S.-E. (2003), 'A greater diversity of origins'. In S.-E. Khoo and P. McDonald (eds), *The Transformation of Australia's Population: 1970–2030*. Sydney: UNSW Press, pp. 158–79.
- Khoo, S.-E. (2011), 'Intermarriage, integration and multiculturalism: A aemographic perspective', In M. Clyne and J. Jupp (eds) *Multiculturalism and Integration: A Harmonious Relationship*. Canberra: ANU Press, pp. 101–19.
- Khoo, S.-E., E. Ho, and C. Voigt-Graf (2008), 'Gendered migration in Oceania: Trends, policies and outcomes'. In N. Piper (ed.), *New Perspectives on Gender and Migration: Livelihood, Rights and Entitlements*. Oxon: Routledge, pp. 101–36.
- Khoo, S.-E., B. Birrell, and G. Heard (2009), 'Intermarriage by birthplace and ancestry in Australia', *People and Place*, **17** (1), 15–27.
- Kulu, H. and N. Milewski (2007), 'Family change and migration in the life course: An introduction', *Demographic Research*, **17** (19), 567–90.
- Lyneham, S. and K. Richards (2014), *Human Trafficking Involving Marriage and Partner Migration to Australia*. Canberra: Australian Institute of Criminology.
- Price, C.A. and J. Zubrzycki (1962), 'Immigrant marriage patterns in Australia', *Population Studies*, **16** (2), 123–33.
- Spinks, H. (2010), Australia's Migration Program. Australian Parliament. [https://www.aph.gov.au/About\\_Parliament/Parliamentary\\_Departments/Parliamentary\\_Library/pubs/BN/1011/AustMigration](https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/BN/1011/AustMigration). Accessed 4 September 2019.
- Strasser, E., A. Kraler, S. Bonjour, and V. Bilger (2009), 'Doing family: Responses to the constructions of "the migrant family" across Europe', *The History of the Family*, **14** (2), 165–76.
- Törngren, S.O., N. Irastorza, and M. Song (2016), 'Toward building a conceptual framework on intermarriage', *Ethnicities*, **16** (4), 497–520.
- Walker, L. and G. Heard (2015), 'Interethnic partnering: Patterns by birthplace, ancestry, and indigenous status'. In G. Heard and D. Arunachalam (eds), *Family Formation in 21st Century Australia*. Dordrecht: Springer, pp. 53–76.
- Wilkins, R., I. Lass, P. Butterworth, and E. Vera-Toscano (2019), *The Household, Income and Labour Dynamics in Australia Survey: Selected Findings from Waves 1 to 17*. Melbourne Institute: Applied Economic & Social Research, University of Melbourne.

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# 11. Demographic perspectives on population change and housing across the lifecourse

*Elsbeth Graham and Albert Sabater*

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## 11.1 INTRODUCTION

The inter-relationships between population change and housing are complex. Changes in the age structure of a population are a key driver of housing demand, for example, while housing supply influences household formation and local population geographies. By drawing on the literature that best illustrates these reciprocal relationships and using empirical examples from the UK, this chapter challenges demographers to give more attention to the role of the housing system in their work.

The UK population, like most other populations in Europe, has changed quite dramatically since the 1970s. After the earlier baby boom, fertility fell to an historic low in the first decade of the 21st century and, even with the recent modest recuperation, is not at the level required for generational replacement. At the same time, life expectancy has steadily increased, albeit not as rapidly as in some other European countries. These trends are changing the age structure of the UK population, with the larger birth cohorts of the baby boom years constituting an increasing proportion of the total population. Although the immigration of working-age foreign nationals has moderated the rate at which the population is ageing, discussion of the potentially serious implications of these changes for the provision and funding of public services, as well as for housing, are now a staple feature of political and policy debate.

Other demographic shifts are of equal interest to researchers and policy makers. A decline in marriage rates and the rise of cohabitation as a temporary or permanent life choice has been accompanied by a rise in the average age of first parenthood, contributing to smaller completed family sizes. Rising divorce rates are fuelling increases in solo living across the age spectrum. Re-partnering has also become more common than in the past, leading to the formation of complex families and increases in the number of non-residential parents, especially among men. There is a large literature that has analysed the details and drivers of these changes, as well as their implications for future population change. While it is widely recognised that housing characteristics, such as house size and tenure, are associated with differences in fertility, mortality and household composition, this literature puts its main emphasis on the demographic processes underlying population change and pays surprisingly little attention to the influences of the housing system.

The UK housing system has changed no less dramatically since the 1970s. The ‘right-to-buy’ legislation resulted in the residualisation of housing provided by local authorities as the more desirable units were purchased by their tenants. Housing Associations (HAs) have grown in importance as providers of social housing and successive governments have sought to encourage homeownership as an aspiration for all. As the tenure structure of housing supply has changed in favour of the private sector, questions of affordability have come to the fore. In the aftermath of the global economic crisis of 2007–08, the construction industry in the UK

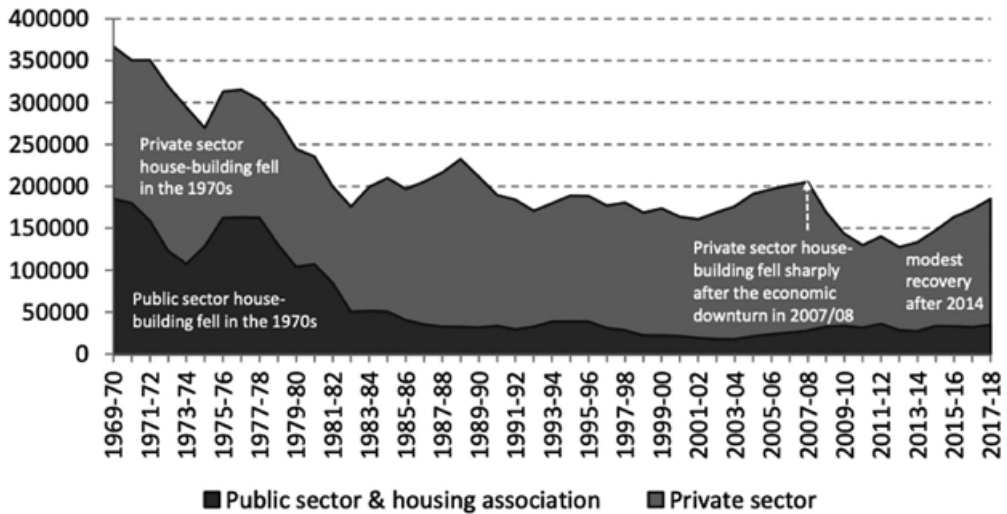
collapsed, constraining housing supply. Subsequent public and political concern has tended to focus on areas of the country where house prices were already high (for example, London and the South-East) and where first-time buyers are now especially disadvantaged. However, the inadequate provision of affordable housing affects all areas of the UK and is heightened in many more remote and rural areas where the purchase of second homes has driven property prices beyond the financial means of local young people. The large body of academic literature investigating these and other changes in the UK housing system has developed as a specialist research area largely separate from research on population change per se. In response to policy differences in the constituent countries of the UK, it also tends to be more geographically fragmented than the demographic literature.

The brief outline above introduces some of the recent changes in population and in housing in the UK. Academic understanding of these changes is already well advanced within each specialist research area but there remains a need for a more integrated research agenda to tackle important issues at the interface between population change and housing. The following discussion examines this interface and is organised in two main sections. In Section 11.2, we outline the key macro-level inter-relationships between population change and the housing system, emphasising that the demand for housing is not simply a reflection of the number and composition of households. We then consider the interdependencies between age composition, household trends and housing demand, arguing that a dynamic understanding of change must distinguish cohort from period effects. In Section 11.3, we examine the contribution of a lifecourse approach to housing transitions as a framework for understanding ‘housing demography’, illustrated by the links between residential mobility and housing careers and between family formation and housing. Finally, we provide an overview of the multiple and complex interdependencies between population change and housing, which are of policy as well as academic interest. We conclude by arguing that a reinvigorated and more integrated agenda is needed for future research.

## 11.2 INTER-RELATIONSHIPS BETWEEN POPULATION CHANGE AND HOUSING

It is widely recognised that prices and quantities in housing markets are influenced by the interaction between supply (construction sector) and demand (households). While the key elements configuring the supply of housing include prices, costs of construction (material and land), cost of financing (mortgage rates) and existing housing stock, demographic patterns, along with changing patterns of housing aspiration and choice, are central for housing demand.

In Britain the building of both private and public sector housing declined during the 1970s. The economic crisis of the late 2000s then saw a further decline in the number of new housing units built by the private sector, while additions to social housing stock remained largely constant (Figure 11.1). Despite rising demand, the housing industry has been producing just over 150,000 homes per year over the decade to 2018, which constitutes less than half of what is needed to tackle the shortage of housing (Barker, 2004; Future Homes Commission, 2012). Although estimates of future demand and need are typically based on projections of the future numbers of households, projected demand also requires a clear division between the demand for private sector housing and demand for social housing, as well as an assessment of the number of vacant dwellings and second homes (Holmans, 2013). The restraints on



Source: Authors' elaboration, based on data from the UK Department for Communities and Local Government.

Figure 11.1 Number of permanent dwellings started by tenure and year. Britain, 1969–2018

house-building and mortgage advances, combined with the rise in unemployment following the economic crisis, suggest an increase in latent demand for housing as a result of enforced delays in the formation of new households. In these circumstances some may consider non-traditional living arrangements such as sharing with unrelated others, in turn changing the demographic composition of households. Thus, even from this brief example it is evident that changes in the number of households, which influence housing demand, are not independent of housing supply.

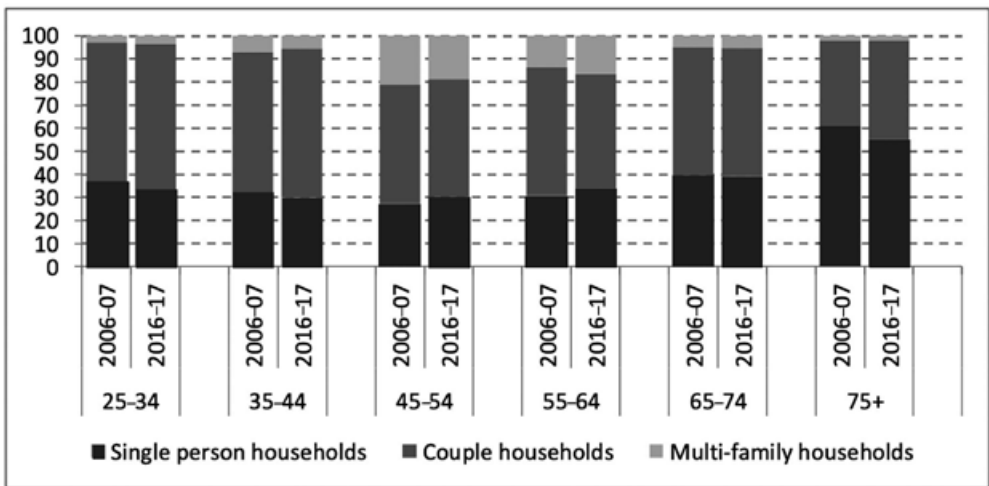
In principle, access to social housing is based on need, whereas access to homeownership or private rented accommodation is determined by financial resources. In practice, the definition of 'need' is influenced by societal and political priorities, which give some groups (for example, parents with dependent children) preference over others and can change over time, while mortgage lenders may facilitate or constrain house purchase in the private sector as they respond to more general economic circumstances. At the macro-scale, therefore, the aggregate demand for housing is not simply a reflection of the number and composition of households in the population. Rather, a range of societal and institutional factors also play key roles in influencing housing outcomes (Clapham, 2011), as do demographic factors such as the age composition of the population.

### 11.2.1 Age Composition and Housing Demand

In addition to the overall number of households, housing demand is often regarded as age-related, but the extent to which different age groups are matched to housing demand in the 21st century deserves greater attention. The typical age profile of those who move house is well established, with Dieleman (2001) identifying the age of the household 'head' and current

tenure as the dominant factors determining moving decisions. Young, single-person households not only have the highest mobility rates but are also likely to have different housing and location requirements compared to middle-aged or older couples. Living arrangements too can be seen to vary by age as young single adults are more likely than older people to share accommodation with their peers and less likely to occupy ‘family housing’. Thus, at the aggregate scale, it is the combination of population age composition and household trends (the number of households and their living arrangements) that is often regarded as underpinning housing demand. In Britain the majority of households are couple households, with or without children, but the proportion of other types of household varies across age groups and, to a lesser extent, over time (Figure 11.2). For example, the proportion of single-person households is lowest among the 45 to 54 age group at around 30 per cent and almost twice that among those aged 75 and over who are the group most likely to be living alone. In the decade after 2006/07, the proportion of single-person households rose slightly among the middle-aged groups but actually fell among young adults and the oldest age group. Nevertheless, average household size has remained fairly consistent over this period at around 2.4 persons per household, although the longer-term trend has been to smaller households (Berrington and Simpson, 2016).

Like household size, population age structure is not static. Changes in the age composition of (local) populations reflect the interplay of trends in fertility, mortality and migration, and housing transitions (for example, out of the parental home or into long-term care) imply a residential move. Since moves, especially at younger ages, are often associated with employment opportunities, some general patterns are discernible. For example, a positive population momentum (or growth dynamic) is typically concentrated in urban areas where the in-migration of young adults for employment or study results in a younger age profile (Champion, 1989; Plane and Jurjevich, 2009). The reverse occurs in many rural settings where a negative momentum is found due to the out-migration of young people and the growing proportion of older people. The pattern of residential moves in the UK is, however, much



Source: Authors’ elaboration, based on data from the Family Resources Survey, 2006/07 and 2016/17.

Figure 11.2 *Household composition types by age (percentages), Britain, 2006/07 and 2016/17*

more varied than these general patterns might suggest (Champion, 2005), and is to some extent influenced by, as well as influencing, housing supply. Further, immigration from overseas has a pronounced effect on age composition, and thus population momentum, in some local areas. Understanding the mutual dependencies between population and housing requires the explicit recognition of these complex spatio-temporal dynamics.

While changes in the age structure of the population and increases in the number of households have implications for housing demand, it is difficult to predict whether or not future housing supply will adequately meet the needs of future populations (Berrington and Simpson, 2016). Constraints on young adults who might otherwise become homeowners already indicate a mismatch between housing need and supply that could have wide social and economic implications, although assumptions about housing demand must be made with care as it is not yet clear how much of the mismatch is the result of financial constraints and how much, if any, is related to changing preferences away from the responsibilities of homeownership. Moreover, it is difficult to estimate overall ‘unmet housing need’, which is multi-dimensional (Bramley et al., 2010), and is subject to changing preferences as well as market supply (Myers and Ryu, 2008).

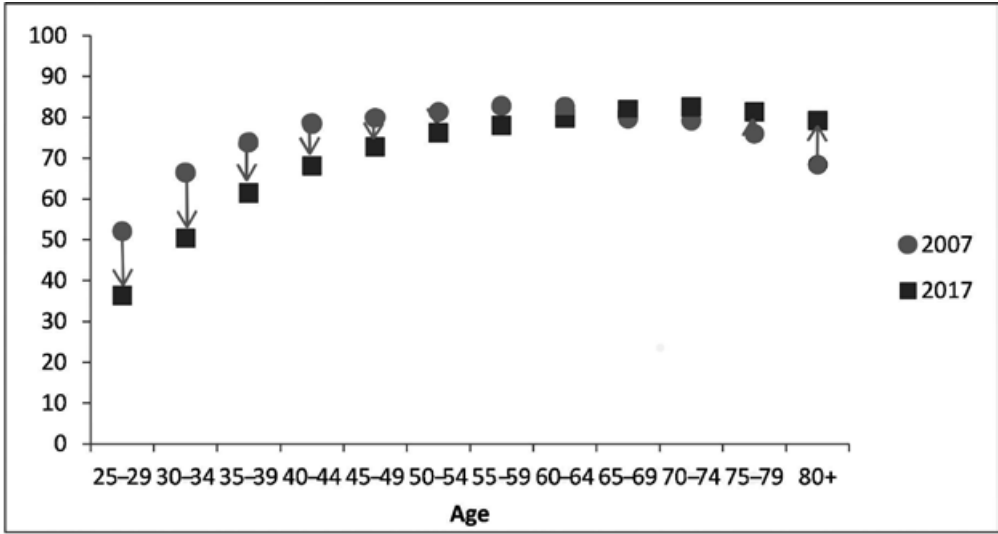
### **11.2.2 Distinguishing Cohort and Period Changes**

An important limitation of many past studies is the use of cross-sectional data to assess the housing demand of different age groups, thus failing to distinguish the differences between cohorts from the differences between the same age groups at different times (Myers, 1990; Mulder, 2006). The distinction between cohort and period analysis is fundamental in demography, with cohorts defined by a demographic event such as birth, marriage or migration while periods are identified as fixed intervals of time or particular years.

Outside demography, the term ‘generation’ is sometimes used as a less precisely defined substitute for cohort, as in the now familiar ‘Generation Rent’. However, most analyses of ‘Generation Rent’ are based on differences between the same age group at different time points (period analysis), which may differ substantially from a birth cohort (longitudinal) perspective. Figure 11.3 contrasts the two perspectives using the same data. While the age-related period differences between 2007 and 2017 reveal a widespread decrease in the levels of homeownership for all ages (particularly for younger ages) up until retirement years, the cohort longitudinal perspective indicates much greater stability after younger cohorts enter homeownership. Although not in conflict, these two perspectives can lead to different conclusions and are better used in tandem.

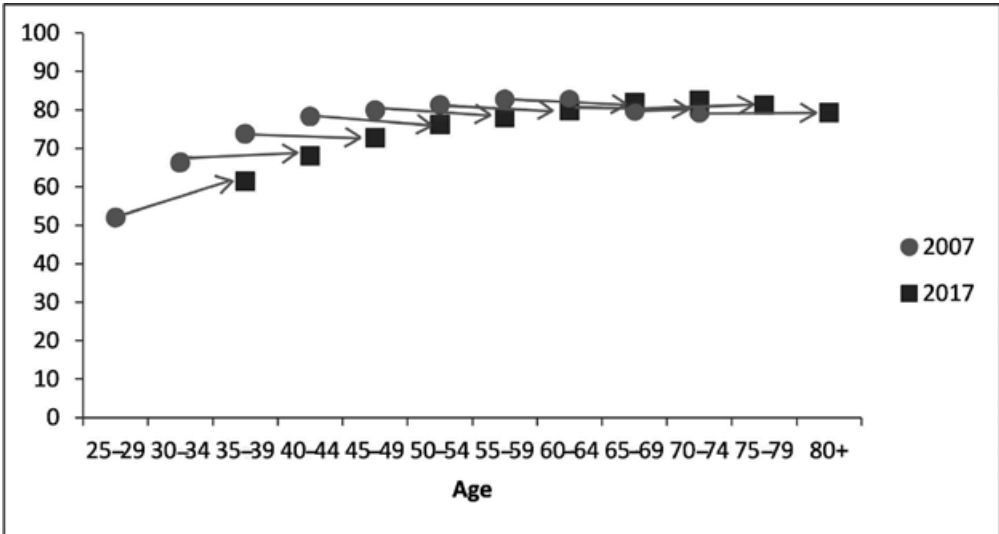
Figure 11.3a illustrates the period (cross-sectional) perspective and draws attention to declines over time for the youngest age groups and small increases for the oldest age groups between 2007 and 2017. This can be compared with the second graph (Figure 11.3b), which illustrates the cohort (longitudinal) perspective by showing the percentage of each five-year birth cohort that are homeowners at the start and end of the decade. It reveals that the youngest birth cohort, aged 25 to 29 in 2007 (and 35–39 in 2017) around the time of the credit crunch, have increased their levels of homeownership (from 52 to nearly 62 per cent) over a ten-year follow-up period. A positive trend is also found among the second youngest birth cohort (who were aged 30–34 in 2007 and 40–44 in 2017) whose homeownership levels have increased slightly (from 66 to 68 per cent). While cohorts in their 40s, 50s and early 60s in 2007 have experienced marginal declines, homeownership among the two oldest cohorts has marginally





Source: Authors' elaboration, based on data from the Annual Population Survey (weighted), years 2007 and 2017.

Figure 11.3a *Period change in homeownership by age group (percentages), Britain, 2007-17*



Source: Authors' elaboration, based on data from the Annual Population Survey (weighted), years 2007 and 2017.

Figure 11.3b *Change in homeownership by birth cohort, Britain, 2007-17*

increased. Given these varied cohort experiences, there is a need, in quantitative studies at least, for greater clarity in the use of the term 'Generation Rent'.

Cohort analysis is especially useful for understanding housing trajectories. For example, although the great majority of homeowners reside in the same units from one decade to the

next, and home selling is relatively rare until advanced old age (Myers and Pitkin, 1995, 2009), homeownership is a quasi-cumulative tenure status requiring analysis that recognises this time dimension. Comparing homeownership trajectories for different age cohorts reveals two important aspects of change. Figure 11.3b shows that the two peak birth cohorts for homeownership attainment in Britain were those aged 55–59 in 2007 (83 per cent), and 70–74 in 2017 (83 per cent). These cohorts were born between 1943 and 1952 during the post-war baby boom. Since cohort momentum will have carried earlier homeownership into older ages, these birth cohorts appear to have experienced greater access to homeownership over the lifecourse than both older cohorts and younger cohorts following on lower trajectories. This is important because many studies assume that, apart from the young ‘Generation Rent’, older cohorts have struck housing gold when in fact the baby boomers are more likely to be the exception (Dorling, 2015). It is also important to recognise the substantial inequalities within birth cohorts, an issue also highlighted in Chapter 3 in this volume.

While estimating young people’s future housing transitions is challenging due to the current salience of period effects, predicting housing transitions for older age groups is no less difficult due to increasing diversity in post-retirement behaviour and the varied influences of events in later life such as divorce, late-life migration or widowhood. Other factors, such as the retirement age rising towards 70 and the growing dependence on more than one (pension) income, might also be crucial for future changes in household composition in later life. The complexities of these potential changes are prompting researchers to look beyond the aggregate scale of population (age) groups and investigate the diversity of individual lifecourses and housing transitions.

### 11.3 LIFECOURSE APPROACH, HOUSEHOLD CHANGE AND HOUSING TRANSITIONS

The lifecourse approach, along with associated methods of event history analysis, has become the dominant paradigm in contemporary population research which seeks explanation rather than description (Kendig, 1995; Dykstra and van Wissen, 1999). This shift away from aggregate analysis towards the micro-scale of individual lifecourses has been encouraged by theoretical work on widespread changes in Western populations over the past few decades. According to Van de Kaa (1987), these major changes (including rising divorce rates, increases in cohabitation, and the postponement or rejection of parenthood leading to low levels of fertility) amount to a Second Demographic Transition (SDT) and are driven by increasing secularisation and individualism. Lesthaeghe and Neidert (2006) noted that the characteristics of SDT have spread to the majority of Western populations, including the countries of Southern and Central Europe. As a general theory of recent demographic change, SDT is not without its critics. However, the hypothesised result is a pluralisation of lifecourses as individuals make different choices at different ages, and it is this new pluralism that presents particular challenges to those investigating the relationships between population change and housing.

It is apparent that population change impacts on the housing system through the number of households and their (desired) tenure and living arrangements. Thus, rising rates of separation and divorce tend to increase the number of single-person households. Delays in family formation may contribute to both living alone and the multiple occupancy of housing units, while smaller families, re-partnering and increasing numbers of childless couples have

more complex implications for housing demand (Smallwood and Wilson, 2007). Together, these demographic changes have undermined traditional notions of a life path characterised by (married) stability and (mortgaged) homeownership for the greater part of adult life. As Widmer and Ritschard (2009, p. 28) put it, ‘This trend toward greater complexity and diversity of life paths was presented by individualization theory as overwhelming a majority of personal lives and as representing one of the most profound changes of societies in late modernity.’ Their own study using Swiss Household Panel data provides an example of comparative birth cohort analysis and identifies different types of cohabitational and occupational trajectories. It confirmed a de-standardisation of living arrangements for younger cohorts since the late 1960s, especially for women. And as lifecourse trajectories become more fluid, so they also become more difficult to predict. What we do know is that different (or diverse) groups increase demand for the kinds of housing attractive to them as they advance through their housing careers, and move or stay put, depending on their financial resources and available housing opportunities.

### **11.3.1 Residential Mobility and Housing Careers**

Clark (2012a, p. 66) defines residential mobility as ‘the process by which households match their housing needs to the houses available to them’ and it is thus central to understanding how housing markets operate. There is widespread consensus that the residential mobility process is closely related to changes in household structure, socio-economic status and tenure, with homeownership (in the UK, as in the US) being the most desired housing tenure (Rossi, 1955; Clark, 2012a). Over time, research on residential mobility has become more nuanced, acknowledging that only a few households are ever unconstrained in making residential choices – with household choices being a function of housing needs, available resources, external events and opportunities within the (local) housing stock. External events include ‘surprises’ such as partnering, separation/divorce or spells of unemployment (Ermisch and Di Salvo, 1996), housing policies that enhance or hamper residential mobility, and ‘shocks’ such as house price falls and rises (Sánchez and Andrews, 2011). Locational and lifestyle preferences also influence residential moves (Clapham et al., 2014), as well as themselves being influenced by prevailing cultural norms and (local) housing opportunities.

The housing market contexts within which individuals and households act vary in ways (for example, housing costs, types and availability) that create a complex geography of opportunity and constraint. Vitali (2010) found significant regional differences in young Spaniards’ living arrangements, which she explains with reference not only to local structural factors, such as unemployment rates, but also to cultural factors, such as the varying local prevalence of non-marital cohabiting unions. The choice of many young adults in the UK to live in urban rather than rural areas is associated with the location of educational or employment opportunities (Heath, 2008) but then – at least for those who do not remain in the parental home – becomes the context in which they have to find somewhere to live (Sissons and Houston, 2018). In this way, housing transitions and residential mobility are two sides of the same coin.

### **11.3.2 Family Formation, Residential Relocation and Housing**

An extensive literature has examined the relationship between the need for more space and household size (Clark and Dieleman, 1996; Dieleman, 2017), highlighting that households

move as they transit through the lifecourse (Kemp and Keoghan, 2001). Housing stock is of particular importance at the local level as the local availability of housing has an impact on both residential mobility within an area and on local household formation (Mulder and Hooimeijer, 1999). Given the aspirational importance of homeownership, past studies of a 'housing career' within the residential mobility process have been dominated by investigations of the transition from rental housing (Helderman et al., 2006; Sissons and Houston, 2018) or the parental home (Fiori et al., 2020) into homeownership. However, patterns of residential movement (and housing transitions) have become more heterogeneous as family structures have become more diverse.

Disruptions in the family lifecourse due to separation, divorce or widowhood, for example, often result in housing transitions that are the unplanned consequence of other household changes rather than the more positive outcomes of a planned housing career (Clark, 2016). In their study of the effects of separation and divorce on housing tenure in England and Wales, Mikolai and Kulu (2018) found that those who separate after marriage or cohabitation were more likely to move, and to move to private rented accommodation, than those who were single or partnered. They also observed a gender difference that persists over time, with separation being more detrimental for women's than men's longer-term housing careers. However, this study did not take (local) housing supply into consideration despite the likely effect of immediate housing vacancies on what may be regarded as urgent and financially restricted moves (Feijten and van Ham, 2007).

The increase in cohabitation and the postponement of marriage to later ages both have implications for housing transitions, with trends in family formation and changing household composition of continuing importance (Buzar et al., 2005; Myers and Pitkin, 2009). Recent debates in the population literature have focused mainly on whether fertility triggers residential mobility or whether people move to particular dwellings and places in anticipation of family expansion, thus highlighting the inter-relationships between fertility behaviour and residential relocation (Kulu, 2008; Mulder and Lauster, 2010; Clark, 2012a). As the contribution to this volume by Mikolai and Kulu (Chapter 15) discusses, geographical contexts also influence fertility behaviour through housing opportunities and constraints, with many couples in large cities such as London delaying childbearing and some having fewer children than initially planned or no children at all (Kulu and Washbrook, 2014).

At the aggregate level, these links have also been approached from the perspective of housing regimes and fertility (Mulder and Billari, 2010), with a growing literature suggesting that housing markets themselves are, through the costs and availability of housing, affecting family formation, mobility and housing transitions (Clark, 2012b). Previous studies have shown that housing costs impact on the likelihood of early residential mobility associated with leaving home and independent residence (Lauster, 2006), whereas living in spacious housing and in a family-friendly environment for a relatively longer time leads to higher fertility (Kulu and Vikat, 2008). A recent study of fertility intentions (before conception) and residential relocations in Germany found that coupled individuals relocated at a higher rate if they intended to have a(nother) child, although there was substantial heterogeneity related to age and parental status (Vidal et al., 2017). The findings suggest that 'anticipatory relocations' are important, implying that some couples move house in expectation of an increase in household size. Steeply rising house prices and mortgage constraints, as have characterised the UK housing market since the global economic crisis, could thus be expected to delay fertility among such

couples as they first face the challenges of buying the kind of home that they perceive as necessary for childbearing (Malmberg, 2012).

Other studies have identified an ‘adaptive’ strategy in which couples, especially those located in cities, instigate a residential move only after the birth of a(nother) child (Clark and Huang, 2003). In a tight housing market, with demand outstripping supply, this is a riskier strategy because suitable ‘family housing’ that individual couples can afford may not be available. In these circumstances, some couples will have to compromise by staying in their current home, and this in turn could delay future births. From the growing body of literature that examines the interconnectedness of fertility and housing, it can be seen that both influence the other – there is no singular casual direction (Vidal et al., 2017). Although recent studies have added nuance to our understanding of the interdependencies between population change and housing, fully unpicking the dynamic inter-relationships between the relative timings of family formation and residential relocation across the lifecourse and the operation of the housing system remains a challenge for future research. The extent of the challenge becomes even more apparent if we consider how the housing behaviour of older cohorts impacts on the opportunities available to younger cohorts and how housing preferences may be changing.

### **11.3.3 Cohort Interdependencies, Housing Opportunities and Housing Preferences**

Owning a home is not simply about purchasing a house but also about ‘buying into’ a neighbourhood, a process referred to as ‘elective belonging’ (Savage et al., 2005). This may be especially important for older households, as neighbourhood characteristics (including adequacy of services, safety and accessibility) have been found to be important for both ageing in place and moving out (Clark and Withers, 2007). Many empirical studies have demonstrated that residential mobility generally declines across the lifecourse. While residential mobility at older ages is low, there are some exceptions such as a slight rise on retirement and with later life moves into care (Evandrou et al., 2010; Falkingham et al., 2016). There is also increased mobility among the widowed and divorced, a situation that Bonnet et al. (2010) attribute to the necessity of adjusting housing consumption to new resources. Although some older households are more willing than in previous generations to change residence in order to accommodate changing lifestyles and poorer health (Abramsson and Andersson, 2012), the evidence from European countries suggests that older people prefer not to move, unless they are forced to do so (Angelini and Laferrère, 2012). A study of older adults in Scotland noted that only a minority of those aged 55 to 69 at the beginning of two recent decades moved house during the decade, and that the proportion had declined from 26.7 per cent in the 1990s to 20.0 per cent in the 2000s (Graham et al., 2015). Analysis of movers in the 2000s demonstrated the role of household changes in triggering a move. Retirement, declining health and partnership transitions (being widowed or divorced and (re-)partnering) during the decade were all positively associated with having moved house by the end of the decade, while having children living at home discouraged residential mobility (Fiori et al., 2019). This study also found that older movers in professional employment were more likely to upsize their housing, whereas the death of a spouse or partner, along with divorce, more than doubled the likelihood of moving to a smaller housing unit. Since the incidence of widowhood in a population is related to the relative life expectancies of men and women, this serves as a reminder that mortality trends also play a part in influencing residential moves and housing consumption.

Three key observations arise from these studies. First, a household's demand for housing is shaped not only by changes in household size across the lifecycle, although these are important, but also by other factors such as the health of household members. Second, the housing 'choices' of movers do not map neatly onto household size as movers seek to satisfy a range of preferences (including location and type of house) within varying levels of financial constraint. Third, there are interdependencies between different age cohorts as evidenced by the relative immobility of older parents with co-resident adult children. Moreover, at the aggregate scale, local housing vacancies depend upon both the level of new build and the level of residential mobility. Where supply fails to meet demand, some potential movers will be unable to move and overall levels of residential mobility are likely to decline. In the context of the current housing crisis in the UK, this implies that the residential choices of the large older birth cohorts will have consequences for the whole housing system.

Finally, housing aspirations and preferences, along with the financial constraints that inhibit effective demand, are not immutable but may also change over time. Existing evidence for the UK suggests that moving aspirations are being significantly hampered by housing market failures, just as public resources have become more constrained (Pennington, 2012). Young people are more profoundly affected than older people, and increases in social and residential immobility have led to debates about intergenerational equity (Willets, 2010; Dorling, 2014, 2015) that often overlook both cohort interdependencies (Fiori et al., 2019) and the implications for age segregation and thus social cohesion (Sabater et al., 2017). A recent study of young people's tenure choices has suggested that more are remaining in private rented housing for longer and that some private tenants are reducing their aspiration for homeownership in response to the current housing crisis. Further, those seeking to become homeowners appear to be less willing than in the past to move to cheaper housing areas (Sissons and Houston, 2018). The increasing diversity of young people's lifecourses precludes easy generalisation about their housing careers or the strategies they use in pursuit of their housing preferences. Clapham et al. (2014) identified nine distinct housing pathways of 16 to 30 year olds in the UK, including a group of 'young professional renters' with relatively high earnings who value the flexibility of renting over owning, enabling them to be more responsive to employment opportunities. The researchers predict that this group is set to grow, which in turn suggests a reduced aspiration for homeownership that is influenced more by the nature of the professional job market than personal financial constraints or rising house prices. The extent to which housing aspirations and preferences are changing in response to, or independently of, the housing crisis in the UK is still unclear but in so far as there are 'mutual influences between housing markets and processes of population change' (Malmberg, 2012, p. 479), changing housing choices among young people hold implications for future family formation and thus the age composition of the population.

## 11.4 CONCLUSION

Empirical evidence at both the macro-scale of the housing system and the micro-scale of individual housing careers across the lifecycle reveals that population change and housing are inter-related in multiple and complex ways. In this chapter we have drawn on previous research and used examples from the UK to illustrate their mutual interdependencies, some of which have only recently become topics of empirical inquiry. The dynamics of housing

demand are not only a response to the number of households in a population, reflecting changes in age composition and thus trends in fertility, mortality and international migration, but are also influenced by prevailing aspirations and preferences for different sizes, types and locations of housing. In this respect, the demand generated by immigration appears to be less predictable, although immigrant households have a greater tendency than native households to live in multi-family units (Catney and Simpson, 2014).

Further, effective housing demand which results in a residential move depends on the (local) context of housing supply (Bramley and Watkins, 2016), as well as household financial resources. And housing supply, or (local) housing opportunities, is dependent not only on new build but also on vacancies created by deaths mainly in older single-person households, meaning that mortality trends are also influencing the supply side of the housing system. Moreover, the number of households is not independent of the housing supply, both because restrictions in the number of vacancies depress the formation of new households as well as residential mobility more generally, and because of the negative effect on fertility and hence on the future age structure of the population. Thus, household formation, fertility, mortality and residential mobility are, to a greater or lesser degree, both causes and symptoms of housing demand and supply. It is conceptually challenging to summarise this series of interdependencies and feedback loops even at the macro-scale. The methodological difficulties for empirical research are greater still and it is unsurprising that studies to date have only examined small parts of the overall picture. Further work is needed to consolidate a conceptual framework for future research and develop appropriate methodological tools for its investigation.

Residential mobility is at the heart of the population change and housing nexus as individuals and households seek to satisfy their housing needs and preferences by moving home. In common with much of the extensive literature in this field, we emphasise a lifecourse approach that recognises the evolving heterogeneity of individual lifecourses, including housing careers. Arguably, focusing on individual housing trajectories is now more important because age has become less reliable as a predictor of housing demand. A lifecourse approach has the advantages of providing insight into the housing transitions of individuals and households over time and framing housing opportunities as time-geographical constraints affecting various transitions, acts and planned projects, while at the same time allowing the recognition of links and connections between individuals (that is, linked lives) that enable, direct and constrain the influences of structural forces (Mulder and Hooimeijer, 1999; Coulter et al., 2015).

However, the lifecourse perspective also adds another layer of complexity. The problem for researchers is how to deal with heterogeneity in the absence of an assumption that there are common patterns of living arrangements for particular age groups and normative trajectories through the lifecourse (for example, marriage, family formation, children leaving home, widowhood). The solution proposed in some recent studies is to build a typology of shared lifecourse sequences from detailed data on individual pathways. This has the merit of avoiding normative assumptions but it raises a number of methodological concerns that have yet to be resolved. How should the population group from which the typology is derived be defined? Since lifecourse transitions reflect the operation of the housing system (as well as other life domains) at particular times, to what extent are period and cohort effects confused? And, therefore, is it appropriate to use data on past lifecourse pathways to predict future housing demand? More discussion of these issues is needed if the limitations of past approaches are to be overcome in future empirical research.

In recent years, housing has been at the forefront of public discourse and policy debate in Britain, as elsewhere, reflecting the tensions and frustrations of profound changes in a housing system dominated by the private market, but there remains a need for a better understanding of the spatial-temporal dynamics that link no less profound population change to the housing system. Future research could do more to distinguish period and cohort changes. More young people may be failing to get on the property ladder now than in the 1990s, for example, but the housing trajectories of some older cohorts suggest that this experience was also common in the past. Greater effort is needed to investigate complexity and resist the simplification and diversions associated with current narratives on intergenerational inequity.

To date, the mobility literature has had little to say about the impact of housing supply constraints on the dynamics of residential relocation and future research could usefully extend exploration of the socio-spatial interdependencies between residential mobility and both demand and supply in the housing system. One barrier to improved academic understanding of such interdependencies is specialisation within the research community, with the literature on population change having developed largely independently of the housing literature. A new dialogue among researchers with varied interests in the population–housing nexus is required to develop a more integrated approach to empirical research. This is of more than academic interest. Prescriptions for improvements in the way the system operates, policies aimed at reducing housing inequalities and projections of future housing demand must rely for their effectiveness on sound knowledge of the dynamics of population and social change from ‘both a micro-perspective focused on individual housing careers and consumption decisions and also a macro-perspective on national trends that are aggregated from a multitude of individual experiences’ (Myers, 1999, p. 473). What is needed is a reconceptualised and reinvigorated research agenda for housing demography because, as Malmberg (2012) has pointed out, the investigation of connections between population change and the housing system is an important research field worthy of further studies.

## REFERENCES

- Abramsson, M. and Andersson, E.K. (2012) Residential mobility patterns of elderly – leaving the house for an apartment. *Housing Studies*, **27** (5), 582–604.
- Angelini, V. and Laferrère, A. (2012) Residential mobility of the European elderly. *CESifo Economic Studies*, **58** (3), 544–69.
- Barker, K. (2004) *Review of Housing Supply. Delivering Stability: Securing Our Future Housing Needs. Final Report – Recommendations*. London: HM Treasury.
- Berrington, A. and Simpson, L. (2016) Household composition and housing need. In T. Champion and J. Falkingham (eds), *Population Change in the United Kingdom*. London: Rowman & Littlefield International, chapter 7.
- Bonnet, C., Gobillon, L. and Laferrère, A. (2010) The effect of widowhood on housing and location choices. *Journal of Housing Economics*, **19** (2), 94–108.
- Bramley, G. and Watkins, D. (2016) Housebuilding, demographic change and affordability as outcomes of local planning decisions: exploring interactions using a sub-regional model of housing markets in England. *Progress in Planning*, **104**, 1–35.
- Bramley, G., Pawson, H., White, M., Watkins, D. and Pleace, N. (2010) *Estimating Housing Need*. London: Department for Communities and Local Government.
- Buzar, S., Ogden, P.E. and Hall, R. (2005) Households matter: the quiet demography of urban transformation. *Progress in Human Geography*, **29** (4), 413–36.



- Catney, G. and Simpson, L. (2014) How persistent is demographic variation between ethnic groups? The case of household size in England and Wales. *Population, Space and Place*, **20** (3), 201–21.
- Champion, A. (1989) *Counterurbanisation: The Changing Pace and Nature of Population Deconcentration*. London: Edward Arnold.
- Champion, T. (2005) Population movement within the UK. In R. Chappell (ed.), *Focus on People and Migration*. Basingstoke: Palgrave Macmillan, pp. 92–114.
- Clapham, D. (2011) ‘I wouldn’t start from here’: some reflections on the analysis of housing markets. *Housing, Theory and Society*, **28** (3), 288–91.
- Clapham, D., Mackie, P., Orford, S., Thomas, I. and Buckley, K. (2014) The housing pathways of young people in the UK. *Environment and Planning A*, **46** (8), 2016–31.
- Clark, W.A.V. (2012a) Residential mobility and the housing market. In D. Clapham, W.A.V. Clark and K. Gibb (eds), *The SAGE Handbook of Housing Studies*. London: Sage Publications, pp. 66–84.
- Clark, W.A.V. (2012b) Do women delay family formation in expensive housing markets? California Center for Population Research, Working Paper Series, 2012-010, University of California, Los Angeles.
- Clark, W.A.V. (2016) Life events and moves under duress: disruption in the life course and mobility outcomes. *Longitudinal and Life Course Studies*, **7** (3), 218–39.
- Clark, W.A.V. and Dieleman, F.M. (1996) *Households and Housing: Choice and Outcomes in the Housing Market*. New Brunswick, NJ: Rutgers.
- Clark, W.A.V. and Huang, Y. (2003) The life course and residential mobility in British housing markets. *Environment and Planning A*, **35** (2), 323–39.
- Clark, W.A.V. and Withers, S. (2007) Family migration and mobility sequences in the United States: spatial mobility in the context of the life course. *Demographic Research*, **17** (Article 20), 591–622.
- Coulter, R., van Ham, M. and Findlay, A.M. (2015) Re-thinking residential mobility: linking lives through time and space. *Progress in Human Geography*, DOI: 10.1177/0309132515575417.
- Dieleman, F.M. (2001) Modelling residential mobility: a review of recent trends in research. *Journal of Housing and the Built Environment*, **16** (3–4), 249–65.
- Dieleman, F.M. (2017) *Households and Housing: Choice and Outcomes in the Housing Market*. London: Routledge.
- Dorling, D. (2014) *All That Is Solid: How the Great Housing Disaster Defines Our Times, and What We Can Do About It*. London: Penguin.
- Dorling, D. (2015) Only one lucky generation ever struck housing gold. *The Telegraph*, 28 April. <http://www.telegraph.co.uk/news/general-election-2015/11566824/Only-one-lucky-generation-ever-struck-housing-gold.html> (accessed 8 May 2015).
- Dykstra, P.A. and van Wissen, L.J. (1999) Introduction: the life course approach as an interdisciplinary framework for population studies. In L.J. Wissen and P.A. Dykstra (eds), *Population Issues: An Interdisciplinary Focus*. Dordrecht: Springer Netherlands, pp. 1–22.
- Ermisch, J. and Di Salvo, P. (1996) Surprises and housing tenure decisions in Great Britain. *Journal of Housing Economics*, **5**, 247–73.
- Evandrou, M., Falkingham, J. and Green, M. (2010) Migration in later life: evidence from the British Household Panel Study. *Population Trends*, **141**, 77–94.
- Falkingham, J., Sage, J., Stone, J. and Vlachantoni, A. (2016) Residential mobility across the life course: continuity and change across three cohorts in Britain. *Advances in Life Course Research*, **30**, 111–23.
- Feijten, P. and van Ham, M. (2007) Residential mobility and migration of the separated. *Demographic Research*, **17** (Article 21), 623–54.
- Fiori, F., Graham, E. and Feng, Z. (2019) Household changes and diversity in housing consumption at older ages in Scotland. *Ageing and Society*, **39** (1), 161–93.
- Fiori, F., Graham, E. and Feng, Z. (2020) Inequalities in the transition to homeownership among young people in Scotland. *Housing Studies*, **35** (3), 506–36, DOI: 10.1080/02673037.2019.1614537.
- Future Homes Commission (2012) *Building the Homes and Communities Britain Needs*. Royal Institute of British Architects.
- Graham, E., Fiori, F. and Feng, Z. (2015) To downsize or not? Household changes and housing consumption among older adults in Scotland. ESRC Centre for Population Change Briefing Paper, 30, 4 pp.
- Heath, S. (2008) *Housing Choices and Issues for Young People in the UK*. York: Joseph Rowntree Foundation.

- Helderman, A.C., van Ham, M. and Mulder, C.H. (2006) Migration and home ownership. *Tijdschrift voor Economische en Sociale Geografie*, **97** (2), 111–25.
- Holmans, A. (2013) New estimates of housing demand and need in England, 2011 to 2031. *Town & Country Planning Tomorrow Series Paper*, 16, 32 pp.
- Kemp, P.A. and Keoghan, M. (2001) Movement into and out of the private rental sector in England. *Housing Studies*, **16** (1), 21–37.
- Kendig, D. (1995) A life course perspective on housing attainment. In D. Myers (ed.), *Housing Demography: Linking Demographic Structure and Housing Markets*. Madison, WI and London: University of Wisconsin Press, pp. 133–56.
- Kulu, H. (2008) Fertility and spatial mobility in the life course: evidence from Austria. *Environment and Planning A*, **40** (3), 632–52.
- Kulu, H. and Vikat, A. (2008) Fertility differences by housing type: an effect of housing conditions or of selective moves. *Demographic Research*, **17** (Article 26), 775–802.
- Kulu, H. and Washbrook, E. (2014) Residential context, migration and fertility in a modern urban society. *Advances in Life Course Research*, **21**, 168–82.
- Lauster, N.T. (2006) A room of one's own or room enough for two? Access to housing and new household formation in Sweden, 1968–1992. *Population Research and Policy Review*, **25** (4), 329–51.
- Lesthaeghe, R.J. and Neidert, L. (2006) The Second Demographic Transition in the United States: exception or textbook Example? *Population and Development Review*, **32** (4), 669–98.
- Malmberg, B. (2012) Fertility cycles, age structure and housing demand. *Scottish Journal of Political Economy*, **59** (5), 467–82.
- Mikolai, J. and Kulu, H. (2018) Short- and long-term effects of divorce and separation on housing tenure in England and Wales. *Population Studies*, **72** (1), 17–39.
- Mulder, C.H. (2006) Population and housing: a two-sided relationship. *Demographic Research*, **15** (Article 13), 401–12.
- Mulder, C.H. and Billari, F.C. (2010) Homeownership regimes and low fertility. *Housing Studies*, **25** (4), 527–41.
- Mulder, C.H. and Hooimeijer, P. (1999) Residential relocations in the life course. In L.J. Wissen and P.A. Dykstra (eds), *Population Issues: An Interdisciplinary Focus*. Dordrecht: Springer Netherlands, pp. 159–86.
- Mulder, C.H. and Lauster, N.T. (2010) Housing and family: an introduction. *Housing Studies*, **25** (4), 433–40.
- Myers, D. (1990) *Housing Demography: Linking Demographic Structure and Housing Markets*. Madison, WI: University of Wisconsin Press.
- Myers, D. (1999) Cohort longitudinal estimation of housing careers. *Housing Studies*, **14** (4), 473–90.
- Myers, D. and Pitkin, J. (1995) Evaluation of price indices by a cohort method. *Journal of Housing Research*, **6**, 497–518.
- Myers, D. and Pitkin, J. (2009) Demographic forces and turning points in the American city, 1950–2040. *The Annals of the American Academy of Political and Social Science*, **626**, 91–111.
- Myers, D. and Ryu, S.H. (2008) Aging of the baby boomers and the generational housing bubble: foresight and mitigation of an epic transition. *Journal of the American Planning Association*, **74**, 17–33.
- Pennington, J. (2012) *No Place to Call Home. The Social Impacts of Housing Undersupply on Young People*. London: Institute for Public Policy Research.
- Plane, D.A. and Jurjevich, J.R. (2009) Ties that no longer bind? The patterns and repercussions of age-articulated migration. *The Professional Geographer*, **61** (1), 4–20.
- Rossi, P. (1955) *Why Families Move*. 1st edn. Beverly Hills, CA: Sage.
- Sabater, A., Graham, E. and Finney, N. (2017) The spatialities of ageing: evidencing increasing spatial polarisation between older and younger adults in England and Wales. *Demographic Research*, **36** (Article 25), 731–44.
- Sánchez, A.C. and Andrews, D. (2011) To move or not to move: what drives residential mobility rates in the OECD? OECD Economics Department Working Papers, No. 846, OECD Publishing, Paris. <https://doi.org/10.1787/5kghtc7kzx21-en>.
- Savage, M., Bagnall, G. and Longhurst, B. (2005) *Globalization and Belonging*. London: Sage.
- Sissons, P. and Houston, D. (2018) Changes in transitions from private renting to homeownership in the context of rapidly rising house prices. *Housing Studies*, DOI: 10.1080/02673037.2018.1432754.

- Smallwood, S. and Wilson, B. (2007) *Focus on Families*. Basingstoke: Palgrave Macmillan.
- Van de Kaa, D.J. (1987) Europe's second demographic transition. *Population Bulletin*, **42** (1), 1–59.
- Vidal, S., Huinink, J. and Feldhaus, M. (2017) Fertility intentions and residential relocation. *Demography*, **54** (4), 1305–30.
- Vitali, A. (2010) Regional differences in young Spaniards' living arrangement decisions: a multilevel approach. *Advances in Life Course Research*, **15** (2), 97–108.
- Widmer, E.D. and Ritschard, G. (2009) The de-standardization of the life course: are men and women equal? *Advances in Life Course Research*, **14** (1), 28–39.
- Willets, D. (2010) *The Pinch: How the Baby Boomers Took Their Children's Future – and Why They Should Give It Back*. London: Atlantic Books.

# PART IV

## HEALTH OVER THE LIFECOURSE

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## 12. Birth spacing and health outcomes: differences across the lifecourse and developmental contexts

*Kieron Barclay and Martin Kolk*

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### 12.1 ADVERSE EFFECTS OF BIRTH SPACING ON OUTCOMES OF CHILDREN ACROSS THE LIFECOURSE

A large literature has examined the relationship between birth spacing, variously operationalized as birth-to-birth intervals and interpregnancy intervals, and the outcomes of children (Conde-Agudelo et al., 2006). Birth intervals refer to the time interval between the births of adjacent siblings. Birth intervals have been the subject of sustained interest amongst researchers because, as a concept, they have the potential to capture and reflect a number of important dimensions of resource distribution in the household and in family life more generally, as well as important physiological factors around pregnancy and childrearing. Mothers, particularly in low-income contexts, who have multiple children in the household are likely to be under greater strain if those children are spaced closely together. Raising many small children is physically and emotionally challenging in any setting, and in low-income settings there may not be enough food to fully satisfy everybody in the household. The mother is likely to be breastfeeding the youngest child, while also trying to take care of the older siblings. In a low nutrition setting she may not have had time to fully recover from each previous pregnancy before conceiving again, meaning that her breast milk would be of lower quality, and her body would not have been able to fully restore all of the vitamins and nutrients, some essential for fetal development, that the subsequent pregnancy required. In more extreme cases, she may have even been breastfeeding while pregnant with the next child, which would be a drain on the mother, as well as damaging to both the child breastfeeding and the fetus in the womb. This confluence of factors has led researchers to speculate about how short birth intervals may have a negative effect on fetal development and pregnancy outcomes, as well as educational outcomes and cognitive development, because closely spaced children may not be getting the resources and stimulation that they need to develop to their potential. In the most extreme cases, short birth intervals even increase the risk of death for the mother as well as the children. Thus, short birth intervals have the potential to influence child health and development across the child's lifecourse.

Researchers have most often examined how the length of time since the birth of the preceding older sibling affects the subsequent child, but some work has also examined the interval to the next youngest sibling from the perspective of the older child (Buckles and Munnich, 2012). Interpregnancy intervals are similarly conceptualized but refer to the time from the birth of the older sibling to the conception of the next youngest sibling. The concept of interpregnancy intervals tends to be used more often in epidemiological research and studies examining perinatal health outcomes (Conde-Agudelo et al., 2006).

The specific outcomes that have received attention in relation to birth spacing are varied, ranging from perinatal health outcomes (for example, the risk of low birth weight or preterm birth), to health and mortality during childhood (Conde-Agudelo et al., 2006), through to longer-term outcomes related to educational and socioeconomic attainment (Powell and Steelman, 1993; Buckles and Munnich, 2012; Barclay and Kolk, 2017), health, and mortality (Campbell and Lee, 2009; Barclay and Kolk, 2018). Research on birth spacing has also spanned across different developmental contexts. Researchers across disciplines such as demography, epidemiology, anthropology, development studies, as well as others, have examined how birth spacing is related to perinatal health and early childhood mortality in historical as well as low- and middle-income contemporary settings, while the research on medium- and long-term outcomes has tended to be conducted in high-income contemporary settings in North America and Western Europe. In this chapter, we provide an overview of this research, including the most recent developments, in an effort to synthesize the literature.

Generally speaking, research and theory suggest that short intervals between births are worse for the children, though there is some evidence that especially long birth intervals are also associated with poor outcomes for children. As a consequence, the World Health Organization (WHO) has recommended that mothers should wait at least 24 months before attempting to conceive again (WHO, 2006). Although this advice from the WHO has primarily been directed at mothers in low- and middle-income countries, medical professionals in high-income countries have also tended to recommend avoiding very short birth intervals. For example, the American College of Obstetricians and Gynecologists recommends women to avoid interpregnancy intervals shorter than six months (McKinney et al., 2018). However, recent research suggests that the negative relationship between birth intervals and child outcomes is more complicated than previously believed, to the extent that the US Centers for Disease Control and Prevention (CDC) have recommended that further research is needed in order to understand the relationship between spacing and health outcomes for both the mother and child (Copen et al., 2015).

The mechanisms by which birth spacing might be associated with child outcomes can be broadly divided into three categories. Physiological factors comprise the first group. A child born after a short interval may suffer from maternal nutrient depletion, and particularly maternal folate depletion, if the mother has not been able to recover sufficiently from the previous pregnancy (Smits and Essed, 2001; King, 2003). This is likely to be a particular problem in low-income settings where maternal nutrition is insufficient to rapidly recover from a previous pregnancy. Furthermore, although breastfeeding is positive for infant development, breastfeeding is likely to impede recovery from maternal depletion (Trussell, 2011). Breastfeeding–pregnancy overlap can also negatively affect the child being breastfed, and breast milk quality may be lower when there are competing demands on the mother’s physical resources (Molitoris, 2018a). Other potentially important physiological mechanisms include transmission of infections across pregnancies (Goldenberg et al., 2005) and so-called cervical insufficiency, which refers to how a short period between pregnancies can lead to deficiencies in the ability of the female reproductive organs to retain the pregnancy (Ludmir and Sehdev, 2000). Finally, Zhu et al. (1999) hypothesize that the negative effects of long birth intervals may be explained by maternal physical regression. Women go through a number of physical adjustments during pregnancy, and a long interval between births means that the body may return to a state where it is no longer primed for pregnancy (Zhu et al., 1999). Another important factor, and particularly in low-income settings, is that maternal health can be affected by

long intervals. Women are more likely to suffer from preeclampsia when pregnant after long birth intervals, and preeclampsia is a leading cause of maternal mortality (Conde-Agudelo et al., 2007).

Social conditions within the household comprise the second group of factors that may explain the relationship between the length of birth intervals and child outcomes. Such mechanisms may apply across both low- and high-income settings, but the effects are likely to be more pronounced when the absolute level of resources is low, as it is in low-income contexts. One potentially important mechanism is resource dilution within the sibling group (Blake, 1981), as short birth intervals would mean that the older sibling has a relatively shorter period of time where they would not be competing with their younger sibling for resources. The notion of resource dilution is also important from the vantage point of the sibling group as a whole, as shorter average birth intervals in the sibling group should mean that access to parental resources is generally constricted to a greater extent for all siblings. Other important factors related to resource dilution include the stress for parents involved in raising multiple closely spaced children, which may lead to less cognitive stimulation for children (Zajonc and Sulloay, 2007), generally lower quality of care, and worse socioeconomic and health outcomes for the parents themselves (Grundy and Kravdal, 2014).

The third explanation is unobserved factors that are associated with both birth spacing and child outcomes (Miller, 1989; Barclay and Kolk, 2017) that may induce a spurious association between birth spacing and child outcomes even if birth spacing actually exerts no genuine causal effect on child outcomes. For example, if a mother who is less healthy than average has trouble conceiving a child, she will have longer birth intervals than average; in turn, her poor health might also translate into poor health outcomes for the child. However, in such a case, one should not assume that the length of the birth interval itself is responsible for the poor health outcome for the child, because the longer birth interval is largely incidental to the process. Other research shows that in the United States short birth intervals are more likely to be unwanted or mistimed, and are particularly common among teenage mothers and African Americans (Gemmill and Lindberg, 2013). Since these sociodemographic groups experience relatively worse socioeconomic conditions in the United States, this could lead to an association between short birth intervals and worse child outcomes. Similarly, female labour force participation has a substantial effect on fertility spacing behaviour (Heckman and Walker, 1990; Troske and Voicu, 2013). In general, it can be said that birth spacing is not randomly distributed across families, and therefore it is important to adjust for systematic variation in the spacing of births across different types of families in order to isolate the net contribution of birth intervals *per se* to child outcomes.

Research on the relationship between birth spacing and child outcomes often alludes to other factors within the sibling group, such as parity, family size, and maternal age at the time of birth. It is worth briefly reviewing how these factors are related to birth spacing, and how they are themselves associated with child outcomes, because they are often important confounders for the relationship between birth spacing and the child outcomes that we are most interested in identifying. For example, first-born children do not experience a birth interval in the same sense as later-born children do; children in large families tend to experience shorter than average birth intervals; and older mothers in high-income settings tend to have shorter birth intervals, particularly if they started childbearing later and are trying to achieve their fertility goals. Later-born siblings tend to have better perinatal health outcomes than first-borns (Kramer, 1987), but worse long-term socioeconomic, educational, and health outcomes than

first- and earlier-born siblings (Black et al., 2005), and therefore it is important to adjust for parity when studying birth spacing. Likewise, there is a large literature that shows that family size can be related to outcomes for children (Steelman et al., 2002), and other studies show that parental age at the time of birth can be important for perinatal outcomes as well as long-term health trajectories (Jacobsson et al., 2004; Myrskylä and Fenelon, 2012). As a result, it is important to adjust for parity, family size, and maternal age in models examining how birth spacing is associated with child outcomes.

## 12.2 PREVIOUS RESEARCH ON BIRTH SPACING

Research in low-income countries has tended to show that children born after especially short and long intervals have worse perinatal health outcomes, including an increased risk of low birth weight, preterm birth, being born small for gestational age, as well as an increased risk of fetal death, neonatal death, and infant mortality. The definition of short birth intervals varies across the literature, but tends to average around 24 months, while the definition of long intervals tends to average around 60 months. A meta-analysis of studies examining the relationship between interpregnancy intervals and perinatal and child health outcomes suggested that the relationship follows a pronounced J-shape, highlighting the poor outcomes of children born after short and long intervals (Conde-Agudelo et al., 2006). Although less pronounced, previous research had also found that short birth intervals were associated with poor perinatal health outcomes such as low birth weight, preterm birth, and being born small for gestational age in high-income countries such as the contemporary United States. Research by historical demographers has also supported this general pattern of findings, where short birth intervals were associated with higher risks of infant mortality in Western Europe and North America prior to industrialization and modernization (Bean et al., 1992; Lynch and Greenhouse, 1994).

Research on long-term outcomes in relation to birth spacing has received relatively much less attention in the literature than research examining the relationship between birth spacing and perinatal and child health outcomes; while there have been dozens, if not hundreds, of studies of the latter, until the 2010s there were only a handful of studies of the former. In general, this research showed that short birth intervals and high sibling density were poor for long-term outcomes. In a pair of studies using data from the United States, Powell and Steelman (1990) found that having multiple siblings closely spaced led to worse educational outcomes, including lower grades in high school. Powell and Steelman (1993) further reported that close spacing had a detrimental effect on the transition to post-secondary school training, and also had a negative association on time spent talking to mothers and fathers, as well as a negative impact on access to educational materials. Regarding long-term health outcomes, the only studies that we are aware of until the most recent tranche of research are a handful of studies examining the risk of schizophrenia (Smits et al., 2004; Gunawardana et al., 2011), autism (Cheslack-Postava et al., 2011; Gunnes et al., 2013; Cheslack-Postava et al., 2014), self-harm (Riordan et al., 2012), and the association between spacing and adult mortality in 18th- and 19th-century China (Campbell and Lee, 2009). Each of these studies found that short intervals were associated with an increased risk of the respective outcomes studied.

Despite the large number of studies examining the relationship between birth intervals and child outcomes, this body of research was not caught up in the wave of enthusiasm for re-examining long-established empirical findings with careful causal identification strategies



until 2012, with the publication of a study by Buckles and Munnich (2012). Buckles and Munnich (2012) used an instrumental variable strategy where they parlayed variation in birth spacing attributable to miscarriages into estimates of how birth spacing affected school outcomes in the contemporary United States for both the older and younger sibling of any given birth interval. Buckles and Munnich (2012) found that longer birth intervals, that is, a longer period of time until the birth of the younger sibling, were associated with better outcomes for the older sibling; specifically, they found that a one-year increase in the birth interval increased test scores for the older sibling by 0.17 standard deviations, which is substantial in magnitude, though there was no observed effect on the younger sibling. Although this study was an important contribution to the literature, the validity of miscarriage as an instrument, given response bias, misreporting, and the almost certain violation of the exclusion restriction (Angrist and Pischke, 2008), should be seriously questioned.

### 12.3 SIBLING COMPARISONS AND ADJUSTMENTS FOR PARENTAL BACKGROUND IN RESEARCH ON BIRTH SPACING

An alternative strategy for reducing unobserved confounding from differences across families that has been employed in recent research is to compare siblings who share the same biological parents. By means of parental-level fixed effects, where models are estimated using within-group deviations-from-means, these models hold the influence of parental background constant across siblings. By only comparing the outcomes of siblings to each other, all factors that are shared by siblings, such as their parents' education, the number of siblings in the family, their primary school (if shared), and parental health, are implicitly controlled for. As it has been repeatedly shown in the social sciences that family background is important for virtually all later life outcomes, adequately adjusting for such factors is a very powerful research design. If, for example, parents more likely to misuse contraceptives have very short birth intervals, comparing siblings that share parents who are more likely to make such errors, but have different birth intervals, allows a better estimation of the effect of birth intervals on an outcome. Other aspects of severe disadvantage such as substance abuse are also hard to measure with the kind of variables available in standard social science sources, but would be accounted for in a sibling comparison design.

Recent research using a sibling fixed effects approach on full population data from contemporary Sweden has suggested that when comparing children who share the same biological parents, neither the interval preceding nor following the index person is significantly or substantially associated with grades in high school, intelligence quotient (IQ) scores, completed educational attainment, labour market earnings, the probability of unemployment, or the probability of receiving government welfare support (Barclay and Kolk, 2017). Further research has shown that after comparing siblings within the same family, there are similarly no clear associations with health outcomes for contemporary Swedish men in early adulthood in terms of body mass index (BMI), physical fitness, or height, nor any consequences for adult mortality for men and women (Barclay and Kolk, 2018). Research using a similar statistical approach with survey data from the United States also supports the conclusion that there are no consequences associated with interval length for outcomes in adulthood (Nguyen, 2014).

Although the evidence for long-term outcomes clearly leans towards a null effect of birth interval length in high-income settings, the pattern is less clear in research examining the relationship between birth spacing and perinatal health outcomes for children in high-income settings. A study by Ball et al. (2014) found that when comparing siblings who shared the same mother using contemporary data from Australia, short birth intervals were no longer significantly associated with the risk of low birth weight, preterm birth, or being born small for gestational age. Further recent research has generally replicated these findings in different contexts such as Canada (Hanley et al., 2017) and Sweden (Class et al., 2017; Barclay et al., 2020). Research using Swedish data has also found that the associations do not vary significantly according to salient social factors such as maternal educational level or maternal country of origin (Barclay et al., 2020). However, studies using the same statistical approach but data from the United States (Shachar et al., 2016; Mayo et al., 2017) and the Netherlands (Koullali et al., 2017) have continued to find that short birth spacing is associated with an increased risk of poor perinatal outcomes. It may be the case that specific contextual factors related to the health care system or socioeconomic stratification may be part of the explanation for variation in the relationship across these different settings.

It should be noted that despite the strengths of sibling comparison models, there are inevitably some drawbacks. For example, not *all* family background factors are controlled for in such models – siblings share some, but not all genes. Family circumstances may also change during childhood. For example, if parents divorce or if a parent experiences a sudden deterioration in health, siblings will experience that event at different ages. Such time-varying factors are not controlled for in a sibling comparison model unless the researcher adjusts for them explicitly. In addition, factors such as breastfeeding that affect birth spacing and potentially also health outcomes are not necessarily adjusted for in a sibling comparison design. A further issue to consider is that sibling comparison models exclude small families. Singletons (‘only children’) are not included in sibling comparison models and there is simply no conceptual relevance in discussing birth intervals among singletons. When studying birth intervals, at least two intervals in the sibling group are needed in order to exploit variance within this sibling group, and that means that sibling comparison models can only be estimated on families with at least three siblings. It has been argued that this decreases the generalizability of the findings, which is true, but we find such critiques overstated. It is true that many parents and children are not included in sibling comparisons on birth intervals. From the parents’ perspective, quite a large share has zero, one, or two children. In Sweden, for example, a society with low to moderate fertility, 68 per cent of parents have zero, one, or two children. However, from the child’s perspective the distribution is very different (Preston, 1976); only 7 per cent of children have no siblings and 66 per cent have two or more siblings in contemporary Sweden. In high fertility populations, virtually all children grow up with a large number of siblings. In many senses, the question about the effect of birth intervals is really a research question about children growing up in relatively large families. No doubt this is one of the reasons why most research on this topic has focused on low-income societies that tend to have high levels of fertility. It is true that families of exactly two children are missing from sibling comparison models, and in Sweden and other high-income countries they represent a reasonably large share of all birth intervals (34 per cent). It is possible that the effects of birth intervals in families of exactly two children are worse than in larger families, but theoretically this seems implausible because all of the mechanisms that have been suggested to link short birth intervals to poor child outcomes would be more exaggerated in larger families, and negative effects are not observed in larger

families in high-income contexts (Barclay and Kolk, 2018). Research on high fertility populations also supports the conclusion that the effects should be worse in larger families (Molitoris, 2018b; Molitoris et al., 2019).

## 12.4 WHEN DOES BIRTH SPACING MATTER? COMPARISONS ACROSS THE LIFECOURSE AND ACROSS THE DEVELOPMENTAL CONTEXT

The research findings from the last five years applying sibling comparisons find that previously documented strong negative effects of short birth intervals in high-income countries are often greatly attenuated or disappear completely once characteristics of the mother are held constant across birth intervals. Most of this research focused on outcomes early in life, often directly connected to the birth. These findings stand in contrast to the large body of literature that documents the strong negative effects of short birth intervals in low-income countries with high fertility.

In this section, we briefly discuss how very recent research has provided a fuller picture of how the effects of birth intervals may vary across the lifecourse, and whether and how the effects of birth intervals seem to be moderated by the level of economic development, the fertility context, and public health conditions. Most previous literature has focused on childhood health and perinatal outcomes in less developed countries, while research on high-income countries has focused on perinatal health, childhood health, and adult outcomes such as education, income, and health. These studies have consistently found adverse impacts of short intervals, and to a lesser extent, also very long intervals. As described earlier, recent research has questioned the negative causal impact of short birth intervals in high-income societies after applying research designs that control for maternal and family characteristics (Ball et al., 2014; Barclay and Kolk, 2017; Class et al., 2017; Barclay et al., 2020). Here, we aim to give an interpretation of how these findings can be reconciled with the documented negative effects of birth intervals in poor countries. A first thought is that perhaps the negative impacts of short birth intervals are also spurious in low-income settings, in the sense that they are correlated with poor outcomes, but not after controlling for maternal traits. The vast majority, if not all, of the studies that are the basis for the WHO recommendations in low- and middle-income countries are also based on between-family comparisons (Conde-Agudelo et al., 2006). However, a null effect of short birth intervals in low-income settings would be an even more surprising finding than the absence of adverse effects in high-income societies.

Some recent studies that apply the sibling comparison methods to studies of low-income and high fertility societies have, however, found that the negative effects of birth spacing on infant mortality remain high in substantive terms, even after adjusting for maternal characteristics (Molitoris, 2017, 2018b; Molitoris et al., 2019). Molitoris (2018b) documents this in contemporary Bangladesh, and Molitoris et al. (2019) examine millions of children born across 77 low- and middle-income countries between the 1960s and 2010s. Both studies find that short intervals (but not always long intervals) are associated with much higher infant mortality. Molitoris et al. (2019) and Molitoris (2017) both provide insights into when we can expect to find an adverse effect of short birth intervals. Molitoris (2017) studied the relationship between birth intervals and mortality in Stockholm between the 1870s and the 1920s. During this period, health care expanded greatly, fertility fell dramatically, and the economy

grew rapidly. Molitoris finds an adverse effect at the beginning of the period that gradually disappears by the 1920s, where birth intervals are independent of child mortality. Molitoris et al. (2019) examine the relationship between infant mortality and birth spacing in 77 countries, for 4.5 million births, over 50 years. The period and country context varies from least developed societies to low- and middle-income countries. They find that the negative impacts of birth spacing are greatly attenuated by increasing development, and that at high levels of the human development index (HDI) – low fertility, low infant mortality rates, and high life expectancy – there is no clear association between short birth intervals and infant mortality. The relationship is also much weaker within smaller families. These studies help to reconcile the widely accepted finding of a negative impact of very short intervals in low-income settings with the increasing evidence that these effects are likely quite small in contemporary high-income settings. The exact point at which short intervals seem to stop being a very powerful determinant of perinatal outcomes is hard to pinpoint, but there is increasing evidence that in most low-income societies we find an adverse effect, and that effect is much less strong in substantive terms in high-income societies. Further research may want to examine if the context dependency of the relationship between birth intervals and poor perinatal outcomes is primarily attributable to overall development in a society, changes in fertility, or availability of health care, prenatal care, and adequate medical facilities.

It seems to be the case that the effect of birth spacing on infant mortality is highly contingent on the developmental context. Other recent research has focused on outcomes of birth spacing across the lifecourse at other lifecourse stages beyond the time just after birth. It is possible that the adverse outcomes of short birth intervals are primarily evident for outcomes later in life rather than for early life physiological outcomes. This might be the case if social conditions during childhood, such as the potential effect of short intervals in diluting parental time investment in each child, were the animating mechanism for the relationship. Much less research has focused on this aspect, and we are only aware of one study that has examined if birth spacing affects adult health and mortality in a low-income context (Campbell and Lee, 2009). Three recent articles have examined these issues for childhood health, and a range of health and socioeconomic outcomes in adulthood, including mortality, for contemporary Sweden (Barclay and Kolk, 2017, 2018; Barclay et al., 2020). In all cases there is no direct negative impact of birth spacing on any outcome.

## 12.5 FAMILY STRUCTURE AND LATER LIFE OUTCOMES IN A COMPARATIVE CONTEXT

To sum up recent findings on birth spacing and health outcomes, it is universally the case that children born before or after short or long intervals do worse in terms of child health, adult health, and long-term socioeconomic attainment. However, in high-income societies, this pattern seems to be due to family characteristics, not birth spacing per se. We therefore argue that there is no evidence of an effect of birth spacing on any outcomes, including on perinatal outcomes, in contemporary Sweden. This finding applies to all stages of the lifecourse. The evidence suggests that the developmental context is very important, and while birth intervals do matter in low-income settings, the negative effects are neutralized by increasing development.

A general challenge in examining early life effects is that the factors that researchers suspect to have adverse causal effects are also concentrated in disadvantaged subpopulations (see also Chapter 19 in this volume, which explores the economic wellbeing of retired migrants in Europe). We conclude by putting our research in the context of other research on family background characteristics and childhood and adult outcomes. When researchers have examined the hypothetical effects of circumstances such as family size, birth order, and birth spacing, they have often found negative effects. There is, however, an increasing understanding that such effects are often mediated by other parental background factors, and that these mediating factors could explain the relationship. In other words, it is true that factors such as a large family size, short birth spacing, and late birth order are associated with poor outcomes, but in many cases, this seems to be driven by a confounding factor that is associated both with the demographic factor under suspicion as well as the outcomes of children.

The most recent research suggests that the concentration of a variety of negative factors in disadvantaged families is the explanation for the negative association between short birth intervals and poor child outcomes in high-income, but not low-income, societies, and that in the latter case it makes sense to talk about the causal negative health impacts of short birth intervals on child outcomes. In studies of family size, researchers have reported on the negative effects of a large number of siblings over the years. Similar to recent birth intervals research, however, research designs that incorporated variation in sibling numbers that was exogenous to parental background (typically using twin births) found that the negative effects of siblings dissipate in advantaged populations, and to some extent also in less advantaged populations (Åslund and Grönqvist, 2010; Fitzsimons and Malde, 2014; Kolk, 2015; Baranowska-Rataj et al., 2016; Baranowska-Rataj et al., 2017). On the other hand, the negative effects of late birth order on adult health appear to exist both in high-income and low-income countries, even after controlling for parental background traits (Barclay and Myrskylä, 2014; Barclay and Kolk, 2015). The example of the effect of birth spacing shows that controlling for parental background factors is critical when examining the impact of early life factors on child outcomes, and the results may differ substantially across different contexts. For birth spacing, we see few reasons for policymakers in high-income societies to worry about short birth spacing in relation to parental-leave policies, for example. The WHO recommendations for low- and middle-income countries are consistent with the most reliable empirical findings, and would improve population health if adhered to. We also conclude that birth intervals do not seem to matter at any point in the lifecourse for children in high-income societies, but that they do matter for children in low-income societies.

## REFERENCES

- Angrist, J.D. and Pischke, J.-S., 2008. *Mostly Harmless Econometrics: An Empiricist's Companion*. Princeton, NJ: Princeton University Press.
- Åslund, O. and Grönqvist, H., 2010. Family size and child outcomes: is there really no trade-off? *Labour Economics*, 17(1), 130–9.
- Ball, S.J., Pereira, G., Jacoby, P., De Klerk, N. and Stanley, F.J., 2014. Re-evaluation of link between interpregnancy interval and adverse birth outcomes: retrospective cohort study matching two intervals per mother. *BMJ*, 349, g4333.
- Baranowska-Rataj, A., De Luna, X. and Ivarsson, A., 2016. Does the number of siblings affect health in midlife? Evidence from the Swedish Prescribed Drug Register. *Demographic Research*, 35, 1259–302.

- Baranowska-Rataj, A., Barclay, K. and Kolk, M., 2017. The effect of number of siblings on adult mortality: evidence from Swedish registers for cohorts born between 1938 and 1972. *Population Studies*, **71**(1), 43–63.
- Barclay, K. and Kolk, M., 2015. Birth order and mortality: a population-based cohort study. *Demography*, **52**(2), 613–39.
- Barclay, K.J. and Kolk, M., 2017. The long-term cognitive and socioeconomic consequences of birth intervals: a within-family sibling comparison using Swedish register data. *Demography*, **54**(2), 459–84.
- Barclay, K.J. and Kolk, M., 2018. Birth intervals and health in adulthood: a comparison of siblings using Swedish register data. *Demography*, **55**(3), 929–55.
- Barclay, K. and Myrskylä, M., 2014. Birth order and physical fitness in early adulthood: evidence from Swedish military conscription data. *Social Science & Medicine*, **123**, 141–8.
- Barclay, K.J., Baranowska-Rataj, A., Kolk, M. and Ivarsson, A., 2020. Interpregnancy intervals and perinatal and child health in Sweden: a comparison within families and across social groups. *Population Studies*, DOI: 10.1080/00324728.2020.1714701
- Bean, L.L., Mineau, G.P. and Anderton, D.L., 1992. High-risk childbearing: fertility and infant mortality on the American frontier. *Social Science History*, **16**(3), 337–63.
- Black, S.E., Devereux, P.J. and Salvanes, K.G., 2005. The more the merrier? The effect of family size and birth order on children's education. *The Quarterly Journal of Economics*, **120**(2), 669–700.
- Blake, J., 1981. Family size and the quality of children. *Demography*, **18**(4), 421–42.
- Buckles, K.S. and Munnich, E.L., 2012. Birth spacing and sibling outcomes. *Journal of Human Resources*, **47**(3), 613–42.
- Campbell, C.D. and Lee, J.Z., 2009. Long-term mortality consequences of childhood family context in Liaoning, China, 1749–1909. *Social Science & Medicine*, **68**(9), 1641–8.
- Cheslack-Postava, K., Liu, K. and Bearman, P.S., 2011. Closely spaced pregnancies are associated with increased odds of autism in California sibling births. *Pediatrics*, peds. 2010-2371.
- Cheslack-Postava, K., Suominen, A., Jokiranta et al., 2014. Increased risk of autism spectrum disorders at short and long interpregnancy intervals in Finland. *Journal of the American Academy of Child & Adolescent Psychiatry*, **53**(10), 1074–81. e4.
- Class, Q.A., Rickert, M.E., Oberg, A.S. et al., 2017. Within-family analysis of interpregnancy interval and adverse birth outcomes. *Obstetrics & Gynecology*, **130**(6), 1304–11.
- Conde-Agudelo, A., Rosas-Bermúdez, A. and Kafury-Goeta, A.C., 2006. Birth spacing and risk of adverse perinatal outcomes: a meta-analysis. *JAMA*, **295**(15), 1809–23.
- Conde-Agudelo, A., Rosas-Bermúdez, A. and Kafury-Goeta, A.C., 2007. Effects of birth spacing on maternal health: a systematic review. *American Journal of Obstetrics & Gynecology*, **196**(4), 297–308.
- Copen, C.E., Thoma, M.E. and Kirmeyer, S., 2015. Interpregnancy intervals in the United States: data from the birth certificate and the national survey of family growth. *National Vital Statistics Reports: From the Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System*, **64**(3), 1–10.
- Fitzsimons, E. and Malde, B., 2014. Empirically probing the quantity–quality model. *Journal of Population Economics*, **27**(1), 33–68.
- Gemmill, A. and Lindberg, L.D., 2013. Short interpregnancy intervals in the United States. *Obstetrics & Gynecology*, **122**(1), 64–71.
- Goldenberg, R.L., Culhane, J.F. and Johnson, D.C., 2005. Maternal infection and adverse fetal and neonatal outcomes. *Clinics in Perinatology*, **32**(3), 523–59.
- Grundy, E. and Kravdal, Ø., 2014. Do short birth intervals have long-term implications for parental health? Results from analyses of complete cohort Norwegian register data. *Journal of Epidemiology and Community Health*, **68**(10), 958–64.
- Gunawardana, L., Smith, G.D., Zammit, S. et al., 2011. Pre-conception inter-pregnancy interval and risk of schizophrenia. *The British Journal of Psychiatry*, **199**(4), 338–9.
- Gunnes, N., Surén, P., Bresnahan, M. et al., 2013. Interpregnancy interval and risk of autistic disorder. *Epidemiology*, **24**(6), 906–12.
- Hanley, G.E., Hutcheon, J.A., Kinniburgh, B.A. and Lee, L., 2017. Interpregnancy interval and adverse pregnancy outcomes: an analysis of successive pregnancies. *Obstetrics & Gynecology*, **129**(3), 408–15.

- Heckman, J.J. and Walker, J.R., 1990. The relationship between wages and income and the timing and spacing of births: evidence from Swedish longitudinal data. *Econometrica: Journal of the Econometric Society*, **58**, 1411–41.
- Jacobsson, B., Ladfors, L. and Milsom, I., 2004. Advanced maternal age and adverse perinatal outcome. *Obstetrics & Gynecology*, **104**(4), 727–33.
- King, J.C., 2003. The risk of maternal nutritional depletion and poor outcomes increases in early or closely spaced pregnancies. *The Journal of Nutrition*, **133**(5), 1732S–1736S.
- Kolk, M., 2015. The causal effect of another sibling on own fertility – an estimation of intergenerational fertility correlations by looking at siblings of twins. *Demographic Research*, **32**, 1409–20.
- Koullali, B., Kamphuis, E.I., Hof, M.H. et al., 2017. The effect of interpregnancy interval on the recurrence rate of spontaneous preterm birth: a retrospective cohort study. *American Journal of Perinatology*, **34**(2), 174–82.
- Kramer, M.S., 1987. Determinants of low birth weight: methodological assessment and meta-analysis. *Bulletin of the World Health Organization*, **65**(5), 663–737.
- Ludmir, J. and Sehdev, H.M., 2000. Anatomy and physiology of the uterine cervix. *Clinical Obstetrics and Gynecology*, **43**(3), 433–9.
- Lynch, K.A. and Greenhouse, J.B., 1994. Risk factors for infant mortality in nineteenth-century Sweden. *Population Studies*, **48**(1), 117–33.
- Mayo, J.A., Shachar, B.Z., Stevenson, D.K. and Shaw, G.M., 2017. Interpregnancy interval and adverse pregnancy outcomes: causal or not? *Obstetrics & Gynecology*, **130**(2), 463.
- McKinney, J., Keyser, L., Clinton, S. and Pagliano, C., 2018. ACOG Committee Opinion No. 736: Optimizing Postpartum Care. *Obstetrics & Gynecology*, **132**(3), 784–5.
- Miller, J.E., 1989. Is the relationship between birth intervals and perinatal mortality spurious? Evidence from Hungary and Sweden. *Population Studies*, **43**(3), 479–95.
- Molitoris, J., 2017. The effect of birth spacing on child mortality in Sweden, 1878–1926. *Population and Development Review*, **43**(1), 61–82.
- Molitoris, J., 2018a. Breastfeeding during pregnancy and its association with childhood malnutrition and pregnancy loss in low- and middle-income countries. *Lund Papers in Economic Demography*, **2018**(3), 1–81.
- Molitoris, J., 2018b. Heterogeneous effects of birth spacing on neonatal mortality risks in Bangladesh. *Studies in Family Planning*, **49**(1), 3–21.
- Molitoris, J., Barclay, K. and Kolk, M., 2019. When and where birth spacing matters for child survival: an international comparison using the DHS. *Demography*, **56**(4), 1349–70.
- Myrskylä, M. and Fenelon, A., 2012. Maternal age and offspring adult health: evidence from the health and retirement study. *Demography*, **49**(4), 1231–57.
- Nguyen, N.T.H., 2014. Family structure and outcomes in adolescence, young adulthood, and adulthood. Rutgers University Graduate School, New Brunswick, NJ.
- Powell, B. and Steelman, L.C., 1990. Beyond sibship size: sibling density, sex composition, and educational outcomes. *Social Forces*, **69**(1), 181–206.
- Powell, B. and Steelman, L.C., 1993. The educational benefits of being spaced out: sibship density and educational progress. *American Sociological Review*, **58**, 367–81.
- Preston, S.H., 1976. Family sizes of children and family sizes of women. *Demography*, **13**(1), 105–14.
- Riordan, D., Morris, C., Hattie, J. and Stark, C., 2012. Interbirth spacing and offspring mental health outcomes. *Psychological Medicine*, **42**(12), 2511–21.
- Shachar, B., Mayo, J., Lyell, D. et al., 2016. Interpregnancy interval after live birth or pregnancy termination and estimated risk of preterm birth: a retrospective cohort study. *BJOG: An International Journal of Obstetrics & Gynaecology*, **123**(12), 2009–17.
- Smits, L.J. and Essed, G.G., 2001. Short interpregnancy intervals and unfavourable pregnancy outcome: role of folate depletion. *The Lancet*, **358**(9298), 2074–7.
- Smits, L., Pedersen, C., Mortensen, P. and Van Os, J., 2004. Association between short birth intervals and schizophrenia in the offspring. *Schizophrenia Research*, **70**(1), 49–56.
- Steelman, L.C., Powell, B., Werum, R. and Carter, S., 2002. Reconsidering the effects of sibling configuration: recent advances and challenges. *Annual Review of Sociology*, **28**(1), 243–69.

- Troske, K.R. and Voicu, A., 2013. The effect of the timing and spacing of births on the level of labor market involvement of married women. *Empirical Economics*, **45**(1), 483–521.
- Trussell, J., 2011. Contraceptive failure in the United States. *Contraception*, **83**(5), 397–404.
- WHO, 2006. *Report of a WHO Technical Consultation on Birth Spacing*. Geneva: World Health Organization.
- Zajonc, R.B. and Sulloway, F.J., 2007. The confluence model: birth order as a within-family or between-family dynamic? *Personality and Social Psychology Bulletin*, **33**(9), 1187–94.
- Zhu, B.-P., Rolfs, R.T., Nangle, B.E. and Horan, J.M., 1999. Effect of the interval between pregnancies on perinatal outcomes. *New England Journal of Medicine*, **340**(8), 589–94.



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## 13. Work, family and health over the lifecourse: evidence from the British birth cohort studies

*Anne McMunn*

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### 13.1 INTRODUCTION

It is now widely accepted that aspects of our social environment influence population health (Marmot and Wilkinson, 2005). In addition to economic and class-based inequalities in health, high quality employment and stable partnership have both been consistently linked with better health outcomes (Chandola and Zhang, 2018; Clouston et al., 2014; Flint et al., 2013; Guralnik et al., 2009; Hughes et al., 2014; Hughes et al., 2017; Lucas, 2005; Pachana et al., 2011; Umberson et al., 1996; Williams, 2003; Wood et al., 2019) and a lower risk of mortality (Blomgren et al., 2012; Brockmann and Klein, 2004; Dupré et al., 2009; Grundy and Tomassini, 2010). However, employment has never been equally accessible to everyone. While social norms over the first half of the twentieth century mandated long periods of marriage for both men and women, norms and social institutions dictated differential access to employment along gender lines (Argyrous et al., 2017; Craig and Mullan, 2011; Crompton, 2006; Dex et al., 1996; Kuhhrit, 2012; Macran et al., 1996; Phillips et al., 2018). This gendered access to employment fostered an economic reliance on men that rendered marriage a financial as well as a social imperative for many women. Based on our current understanding of participation in employment as a social determinant of health, we might expect women's exclusion from paid work to manifest in greater morbidity amongst women than men. Indeed, while men die younger than women, largely due to riskier jobs and behaviour (Office for National Statistics, 2015; Waldron et al., 2005; Yin, 2007), women worldwide do tend to carry a greater burden of disease, including, but not limited to, psychological distress (Morris and Earl, 2017).

Given that one of the most dramatic social changes over the past half century has been women's ever strengthening ties to employment, we might expect gender differences in health and wellbeing to be diminishing, and to some extent they are, although not always in expected directions (Stevenson and Wolfers, 2009). Indeed, mothers' entry into the world of work was initially met with a sort of moral panic, particularly in the USA, over the potentially health damaging effects of trying to combine paid work with family responsibilities, and parenthood continues to signify reduced access to paid employment for women in nearly all countries. Mothers remain much more likely than fathers to take time away from employment or reduce their employment hours in response to parenthood (Kuhhirt, 2012; McMunn et al., 2015b; Schober, 2013). These days we might equally ask what the health impact is on men of the felt imperative to increase working hours upon entry to parenthood, and not always feel able to request the flexible working arrangements required to participate equally in parenting (Coltrane et al., 2013).

This chapter reviews the evidence linking work, family and health from a gender perspective. In particular, the chapter argues that a lifecourse approach is crucial in understanding these dynamic associations and provides details on the findings of a project comparing asso-

ciations between work, family and health across three adult British birth cohort studies. The chapter concludes by recognising that continued investment in lifecourse data on the most recent generations of men and women is required in order to understand and document what appears to be rapid social change in gender relations currently.

### 13.2 WORK, FAMILY AND HEALTH: THE HISTORICAL CONTEXT

After the post-war heyday of traditional gender relations with ‘separate spheres’ of work, women, and most unusually mothers of young children, began entering the labour market in larger numbers from the 1970s onwards (Office for National Statistics, 2013a; Rowbotham, 1999). This shift was triggered by a confluence of several ‘push’ and ‘pull’ factors. Push factors included women’s increasing educational attainment, the cultural upsurge of second wave feminism, the rise of smaller family sizes and the emergence of time-saving domestic appliances (Coen-Perani et al., 2010; Rowbotham, 1999). Generational increases in access to higher education gathered pace with baby boomers born after the Second World War, but for women who were starting from a lower base this increase was much more dramatic (Bolton, 2007). Pull factors were in the form of a burgeoning new service industry which was perceived as being well suited to ‘feminine’ traits and the emotional labour associated with ‘women’s work’, as well documented by Hochschild in *The Managed Heart* (1983).

Knowing what we know now about the benefits of participation in paid employment, particularly if it is adequately paid, secure and stimulating, we might expect this shift to have been health enhancing for women of the time. Indeed, Friedan’s (1963) work *The Feminine Mystique* was published prior to women’s greater labour market entry and described an epidemic of ‘the problem that has no name’ – what we now think of as psychological distress or low levels of wellbeing amongst American middle-class housewives who were confined to the domestic sphere with little opportunity for cognitive stimulation or a sense of shared social purpose. Some scholars of the time, reflecting the picture painted by Friedan, argued that the multiple roles that these new working mothers occupied might be beneficial by increasing access to health enhancing factors such as self-esteem, social contact and financial resources from a greater variety of roles (Nordenmark, 2004). This set of ideas tended to be labelled the ‘Role Enhancement’ or ‘Multiple Role’ hypothesis. However, much of the initial scholarly reaction to the emerging phenomenon of working mothers was to express concern that the demands and potential conflict of combining paid work responsibilities with domestic responsibilities would be harmful to women’s mental health in particular. These ideas were often termed the ‘Role Overload’ or ‘Role Conflict’ hypotheses (Gove, 1984).

These ideas feel outdated to us now for several reasons. Few scholars of the period considered the notion that women might relinquish some of their domestic responsibilities. Domestic appliances had reduced some of the burden of housework, but there was little public or private childcare provision and the role of the father was still strongly perceived to that of provider at this time. Famously, one of the first to question the double burden that fell to working women and not their male working partners was, again, Hochschild in *The Second Shift* (1989). The continued proliferation and embedding of feminist perspectives mean that we are better able to see the gender stereotypes that underpin the role overload model, including assumptions regarding women as caregivers and men as providers. Yet, while much of the

language used in this period is antiquated, the sentiments expressed persist in new forms. We continue to read headlines about time-poor working parents (The Times, 2010), and while the narrative is increasingly focused on parents more broadly rather than mothers per se (van der Lippe and Peters, 2007), the predicament of working mothers continues to be singled out for special attention (Chandola et al., 2019; Guardian, 2019).

In terms of the evidence supporting these early hypotheses, many large-scale, often national, social surveys were conducted, mainly in the USA (Barnett and Hyde, 2001; Hibbard and Pope, 1991; Repetti, 1998; Repetti et al., 1989; Verbrugge, 1983; Waldron et al., 1998), but also in the UK (Arber, 1991, 1997; Bartley et al., 1992; Bartley et al., 1999; Macran et al., 1994) and Nordic countries (Kostiainen et al., 2009; Lahelma et al., 2002; Nyman et al., 2012) that asked women about their employment, partnership and parenthood circumstances as well as their mental or general health, and other factors such as socioeconomic indicators. These studies tended to find that women who were participating in all three of these 'roles' reported better health than women who were not. This was taken as support for the Role Enhancement hypothesis – women who combined work and family had better health than those who did not. However, the vast majority of these studies were cross-sectional in design; they measured women's circumstances at one single point in time. The few longitudinal studies to examine social roles at baseline and later health (Janzen and Muhajarine, 2003) or mortality (Hibbard and Pope, 1991; Martikainen, 1995; Moser et al., 1990; Weatherall et al., 1994) did not include measures of health earlier in the lifecourse and so were unable to investigate the influence of health prior to social role occupation, and relied on social role measures at one or, at most, two points in time.

### 13.3 THE IMPORTANCE OF TAKING A LIFECOURSE PERSPECTIVE

Early research in this area suggested that women who combined paid work with parenting and partnership were healthier than those who did not. However, because of their cross-sectional design, these studies were very limited in the questions they were able to answer. For example, they were unable to establish the timing of events, which is a fundamental starting point for thinking about causal processes. Were women who combined work and family healthier as a result of combining employment with stable partnership and parenthood, or was the association the result of healthier women being more likely to enter the workforce and have children, or a combination of bi-directional processes?

In order to understand causal processes related to work, family and health, in addition to establishing the timing and direction of associations, it is helpful to characterise different states and transitions across an entire lifecourse. For example, it is useful to be able to observe the duration of employment spells, the accumulation of periods of unemployment, or transitions such as parenthood or divorce as potential triggers for employment transitions or health events. Lifecourse epidemiology uses the concepts of 'accumulation of risk', 'sensitive periods' in lifecourse development or decline, and 'chains or pathways of risk' as models for understanding ways in which social determinants influence health over the lifecourse (Kuh et al., 2004). 'Sensitive periods' refer to periods, often early in the lifecourse, in which exposure to a stimulus or insult will have long-lasting effects (Barker, 1998). (The term 'critical period' is used when these effects are thought to be unmodifiable by circumstances later in life.) The concept

of ‘accumulation of risk’ hypothesises that social or economic disadvantage (or advantage) accumulates over the lifecourse to produce increasing health inequalities. There is much conceptual overlap between the lifecourse epidemiological accumulation models and Cumulative Advantage/Disadvantage (CAD) framework used in lifecourse studies in the social sciences more broadly, which also posits that health inequalities grow over the lifecourse through mechanisms that concentrate the impact of early advantages or disadvantages as an individual ages (Dannefer, 2003; Kendig and Nazroo, 2016; McDonough et al., 2015; O’Rand, 2009). Much current empirical work in lifecourse epidemiology is concerned with understanding the chains of risk or interacting psychological, behavioural and biological pathways linking social and material circumstances and health.

Thus, taking a lifecourse approach to understanding how work, family and health influence one another encourages us to consider the duration of different states in each of these domains, the timing of transitions between states, the role of early life factors in establishing later work, family and health states, and the potential material, behavioural, psychological or biological pathways through which work and family experiences may influence health, if they do. Disentangling all of this is complex and challenging. At a minimum, it requires information on a wide range of factors collected on large numbers of people over time, selected through a process that ensures they are relatively representative of the population at large. Thanks to the foresight of a number of British academics, clinicians and funders over the years the UK is rich in data that allow us to study these topics empirically from a lifecourse perspective (Pearson, 2016). These ‘jewels in the crown’, as they are often referred to, are the British birth cohort studies which follow thousands of people in nationally representative samples from birth to death, collecting a wide range of information along the way. There are currently four such studies of cohorts born in 1946, 1958, 1970 and 2001. These studies provide a unique opportunity to understand the processes of interest here, as well as enabling us to compare these processes across different generations of women and men.

### **13.3.1 The Longest Running British Birth Cohort Study: Britain’s Post-war Generation**

In order to investigate how employment, parental and partnership biographies influence, and are influenced by, health over the lifecourse, it is necessary to seek out individuals for whom this information was collected across their lives. An ideal data set is the very first and longest running British birth cohort study whose participants have been studied since their birth in 1946. The MRC National Study of Health and Development (NSHD) was established to better understand maternity experiences in response to decades of decline in British fertility rates (Pearson, 2016). All of the singleton births to the wives of non-manual and agricultural workers, and one in four singleton births to the wives of manual workers during one week in March 1946 were selected for the study (Wadsworth et al., 2006). Follow-up surveys were funded, partly as this was the first cohort to be raised within the context of a new National Health Service, and a vast amount of social, economic, health and psychological information has been, and continues to be, collected from NSHD participants (Pearson, 2016).

Our early work studied the NSHD women up to age 53. A characteristic of early evidence on this topic, in addition to cross-sectional study designs, was the self-reported nature of health outcomes. Similarly, women in the NSHD were asked about their general health at the age of 54 and we found that women with weaker ties to paid work, as well as lone mothers and

childless women, were significantly more likely to report poor health at age 54 than women in our 'Multiple Roles' group (who had relatively strong ties to paid work, although often after a work break in their early 20s when their children were young). This worse health was not explained by differences in socioeconomic circumstances in adulthood or childhood, or by self-rated or psychological health in adolescence or early adulthood, suggesting that the poor health seen in mid-life for women with weaker ties to paid work or partnership was not explained by poor health earlier in the lifecourse 'selecting' them out of employment or into divorce, for example (McMunn et al., 2006).

People's perceptions of health are informative and self-reports of health do significantly predict mortality (Burström and Fredlund, 2001), but scientists in this area, including those running the NSHD, were interested in collecting more objective markers of health such as blood pressure and body mass index measured by a nurse, as well as cholesterol and triglycerides (fat cells) circulating in the blood. We extended the evidence base on the potential health effects of combining employment and parenthood by examining differences in the prevalence in obesity and found that, as with self-rated health, women with weak ties to paid work were significantly more likely than 'Multiple Roles' women to be obese at age 53 and this was not explained by differences in socioeconomic circumstances or body mass index (BMI) in early life. Women with weaker ties to employment had had a greater number of children, but this explained very little of their increased risk for obesity in mid-life (McMunn et al., 2006).

These 'biomarkers', as they are often called, are studied as objective markers of disease risk, but also have increasingly become a focus for better understanding the biological pathways through which stressful social environments are 'embodied' or 'get under the skin' to influence health (Hertzman and Boyce, 2010; Kelly-Irving et al., 2015; Kreiger, 2005). In this vein, markers of inflammation and neuroendocrine activity, which are part of the body's natural 'fight or flight' response to various forms of stress, have been collected in the later years of the NSHD. We extended our analysis to include these measures, while also adopting three innovations to this area of research: a novel technique for characterising work-family lifecourses, a new imputation technique developed by Halpin (2012, 2013) and including men. Given the evidence base showing health benefits of employment and partnership mentioned at the start of this chapter, our working hypothesis was that lifecourses characterised by long or frequent periods of non-employment or not living with a partner may be stressful and linked with raised metabolic or inflammatory disease risk factors.

Sequence analysis uses whole lifecourses as the unit of analysis (Barban and Billari, 2012) while multi-channel sequence analysis combines lifecourse information across multiple domains (Gauthier et al., 2013; Pollock, 2007). Here, annual information on employment, partnership and parenthood from ages 16 to 53 was used and a dynamic hamming algorithm which emphasises the timing of transitions (Lesnard, 2010; for further methodological detail, see McMunn et al., 2015b) was used on men and women in the NSHD, resulting in the eight work-family groups shown in Table 13.1 (Lacey et al., 2016b). Nearly all men were in work-family types characterised by continuous full-time employment (98 per cent), but they varied by timing of transition to partnership and parenthood. A group comprised of almost half (47.7 per cent) of men in this cohort was characterised by entry into marriage and fatherhood in their early 20s, while over 30 per cent were in a group who made these transitions later in their late 20s or early 30s. Women's work-family types were more diverse than men's and women were more likely to occupy work-family types with weaker ties to paid work with, for example, nearly 30 per cent in a long-term, part-time employment group (29.9 per cent) and

*Table 13.1 Work-family lifecourse groups amongst women and men in the MRC National Survey of Health and Development 1946 birth cohort, age 16–53*

Work-family type	Men % (n=1252) <sup>b</sup>	Women % <sup>a</sup> (n=1251) <sup>b</sup>	Model biography sequence
‘Work, early family’	47.7	15.1	Continuous full-time employment; married and children from early 20s
‘Work, marriage, non-parent’	7.9	9.0	Continuous full-time employment; married from early 20s; no children
‘Work, no family’	11.5	6.1	Continuous full-time employment; no partner or children
‘Work, later family’	30.6	3.5	Continuous full-time employment; cohabiting mid-20s, married from late 20s; children from early 30s
‘Later family, work break’	1.0 <sup>c</sup>	11.6	Employed full-time until late 20s, homemaking from early 30s; married from mid 20s; children from early 30s
‘Early family, work break’	0.6 <sup>c</sup>	14.6	Employed full-time until early 20s, homemaking from early-late 20s, employed part-time from early 30s; marriage and children from early 20s
‘Part-time work, early family’	0.7 <sup>c</sup>	29.9	Employed full-time until early 20s, part-time employed from early 20s; marriage and children from early 20s
‘No paid work, early family’	0.02 <sup>c</sup>	10.3	Employed part-time until early 20s, homemaking from early 20s; marriage and children from early 20s

*Notes:*

<sup>a</sup> Results presented as percentages as are imputed data.

<sup>b</sup> Descriptives given for those with at least one observed outcome (n=2,503).

<sup>c</sup> Work-family groups containing fewer than 2% of participants are not presented in subsequent analyses as estimates are unlikely to be reliable.

*Source:* From Lacey et al. (2016b).

10 per cent in a group characterised by long-term, full-time homemaking. We investigated differences in six metabolic markers at age 53: waist circumference, systolic and diastolic blood pressure, cholesterol and measures of fat and sugar in the blood. We found associations were much stronger for men than for women. Men in the groups that made later transitions to parenthood had reduced metabolic risk in mid-life. Women in a group characterised by childlessness had smaller waist circumferences at age 53, but no other differences were seen for women (Lacey et al., 2016b).

We then extended this analysis to look at differences in wellbeing indicators when NSHD respondents were in their early 60s in relation to work-family lifecourses extended to age 60 (Lacey et al., 2016c). Similar to our previous findings amongst women in this cohort, we found that women with weaker ties to paid work had significantly lower life satisfaction than women who had combined paid work with stable partnership and parenthood. In addition, the same was true for both men and women who had not partnered or had children. We did not find significant differences in relation to depressive symptoms or wellbeing (Lacey et al., 2016c).

At the same time, similar studies were being undertaken on other data sets with full life-course information on employment, partnership and parenthood, in particular national studies of ageing such as the English Longitudinal Study of Ageing (ELSA) and sister studies in the USA (the Health and Retirement Study, HRS) and Europe (the Survey of Health and Retirement in Europe, SHARE). ELSA and SHARE follow participants from the age of 50, but also collected earlier life information retrospectively using life grid techniques (Belli et al., 2007; Berney and Blane, 1997). Single-channel sequence analysis of employment

biographies in both studies found that mothers who took a break from work and returned full-time were less likely to report poor health (in ELSA) or reported better quality of life (in SHARE) than women who maintained full-time employment (Stone et al., 2015; Wahrendorf, 2015). In SHARE, long-term homemakers also reported lower quality of life than those who took time out from work for parenting and returned to full-time employment (Wahrendorf, 2015). In the HRS, Sabbath and colleagues (2015) used a multi-channel sequence analysis to characterise employment, partnership and parenthood lifecourses in relation to mortality amongst women and found, very much in line with our multi-channel sequence results in the NSHD, that women whose lifecourses were characterised by long periods out of employment died significantly younger than women who maintained stronger ties to paid work, and this was equally true for lone and partnered mothers. The authors adjusted for smoking and BMI, as well as differences in age, income, education and ethnicity, to account for potential health selection effects, although they were not able to take account of early life health which may have contributed to weaker employment ties. Hedel and colleagues (2016) used both HRS and SHARE to compare work-family lifecourse differences in the health of women in Europe and the USA. As we found in the NSHD, they found that non-working married mothers were more likely to be obese than working married mothers in the USA, while lone mothers were more likely than working married mothers to have heart disease and to smoke in both regions, and to have strokes in the USA. In Europe, single childless working women were more likely to smoke than working married mothers.

Taken together, the evidence tends to show poorer health outcomes for women who spend long periods of the lifecourse out of employment to look after home and family, at least amongst women born in the first half of the twentieth century. However, a paradox of lifecourse research is that by the time adequate data exist for a lifecourse to be well characterised, that generation is ageing and fails to capture subsequent social and demographic changes that are often of interest to social scientists and policymakers. This is particularly true when thinking about family life and women's employment where social norms, behaviour and gender relations have changed markedly over the past 50 years. The generation represented by the NSHD were the youngest and most uniform on record to enter into marriage and parenthood (Kiernan and Diamond, 1983; Kiernan and Eldridge, 1987). Since men and women in this cohort began forming their families and entered working life, the social norms and institutions that encouraged a gendered division of labour have steadily been eroding (Kan et al., 2011). For example, continuous employment is now a fact of life for the majority of British women, including mothers (Dex et al., 2008; Hansen et al., 2009; Office for National Statistics, 2013a), and more recently, the institution of marriage has been in decline (Morgan, 2011; Office for National Statistics, 2011, 2012), although the trend towards fewer and later marriages has been partly offset by rapid increases in the prevalence of non-marital cohabitation (Coleman and Glenn, 2009; Office for National Statistics, 2012). Thus, we were curious as to whether the relationships that we had seen between work, family and health in the post-war generation were maintained in more recent generations who had experienced or were experiencing much of this interesting social change. Indeed, the lifecourse framework involves not only considering interacting domains across individual biographies, but also the lifecourse as embedded and shaped by the historical times and places experienced over their lifetime (Elder, 1998).

*Table 13.2 Work-family lifecourse groups amongst women and men in the MRC NSHD 1946 birth cohort, the NCDS 1958 cohort and the BCS 1970 cohort, age 16–42*

<b>Ideal type</b>	<b>Description</b>
‘Work, No Family’	Continuous full-time employment; no partner; no children
‘Work, Marriage, Non-parent’	Continuous full-time employment; married from age 21; no children
‘Work, Cohabitation, Later Parent’	Continuous full-time employment; cohabiting from age 26; children from age 30
‘Work, Later Family’	Continuous full-time employment; cohabiting from ages 26 to 27, married from age 28; children from age 30
‘Work, Early Family’	Continuous full-time employment; married from age 21; children from age 23
‘Work, Divorced Parent’	Continuous full-time employment; married from 21 to 37, single from age 38; children from age 23
‘Teen parent’	Caring for children full-time until age 24, employed full-time from age 25; married from age 32; children from age 19
‘Later Family, Work Break’	Employed full-time until age 29, caring for children full-time from age 30; married from age 26; children from age 30
‘Early Family, Work Break’	Employed full-time until age 22, caring for children full-time from age 23–30, employed part-time from age 31; married from age 21; children from age 23
‘Part-time Work, Early Family’	Employed full-time until age 22, part-time employed from age 23; married from age 21; children from age 23
‘No Paid Work, Early Family’	Employed part-time until age 21, caring for children full-time from age 22; married from age 20; children from age 22
‘Unstable Work, No Family’	Full-time employed 16–22, other not employed 23–26, full-time employed 27–28, other not employed 29–32, full-time employed 33–34, other not employed 35–38, full-time employed 39–40, other not employed age 41; single throughout; no children

Source: From McMunn et al. (2015b).

### **13.3.2 More Recent Generations: Baby Boomers and Generation X**

We turned to characterising the work-family lifecourses of the baby boomer and gen X generations as captured by the National Child Development Study (NCDS), a national cohort of British babies born in one week of March 1958, and the British Cohort Study (BCS) of babies born in March 1970 (Elliott and Shepherd, 2006; Power and Elliott, 2006). Again, we used multi-channel sequence analysis to characterise work-family lifecourses up to age 42, which was the most recent sweep of data available for the BCS at the time and compared results across the three cohorts. Cluster analysis across both men and women in all three cohorts produced the 12 groups shown in Table 13.2.

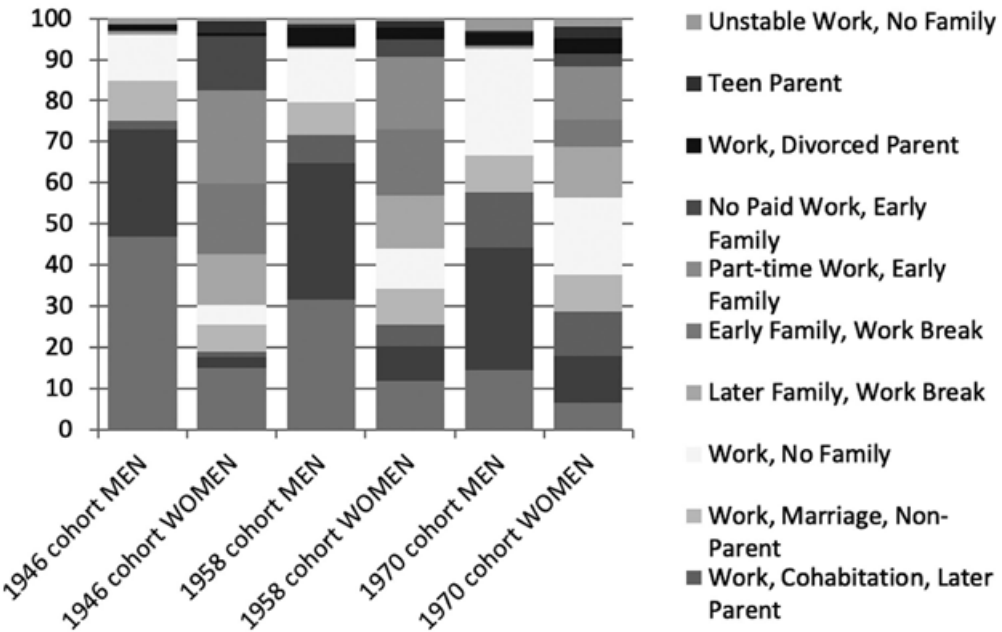
As Figure 13.1 shows, we did find much change, but also continuity. The vast majority of men in all three cohorts were in one of the six work-family types characterised by stable participation in full-time employment. The main change for men was a decline from early to later family formation from a little less than half of men in the 1946 cohort in the ‘Work, Early Family’ to only 15 per cent in the 1970 birth cohort. The proportion of women in one of the six groups characterised by continuous full-time employment increased steadily from 31 per cent in the 1946 cohort to 47 per cent in the 1958, and 60 per cent in the 1970 cohort, while the percentage of women in the ‘No Paid Work, Early Family’ group dropped fairly substantially, and significantly, between the 1946 and 1958 cohorts (13 per cent and 4 per cent, respectively); membership of the group who formed their families early and took time out of work



but returned (the ‘Early Family, Work Break’ group) was significantly lower amongst women in the 1970 cohort (7 per cent) than in the two earlier-born cohorts (16–17 per cent). There were also significant increases across cohorts in the percentage of both women and men in the long-term cohabitation group (‘Work, Cohabitation, Later Parent’), with a particularly large uptake for the 1970 cohort. Perhaps most striking was the high preponderance of both men and women in the 1970 cohort who combined minimal or no family ties by age 42 with continuous full-time employment (the ‘Work, No Family’ type). Over a quarter of men and nearly a fifth of women in the 1970 cohort were in this group.

However, while we did see a growing proportion of women in lifecourses characterised by continuous full-time employment across cohorts, our results reinforce the idea that this social change in this area remains incomplete (Esping-Andersen, 2009). British women born in 1970 remained much more likely than men to take time out of work or reduce their working hours in response to parenthood. Work-family lifecourses characterised by long-term, part-time employment or a career break later in their 30s remained the second and third most common trajectories (respectively) for women born in 1970. This reversion to more traditional gender roles within couples upon the transition to parenthood is well documented in other data sets in the UK (Schober, 2013) and elsewhere (Argyrous et al., 2017).

While educational attainment was linked with work-family lifecourses in expected ways (men and women with higher educational qualifications were the most likely to combine continuous employment with childlessness or delayed parenthood; those with no educational



Source: Adapted from McMunn et al. (2015b).

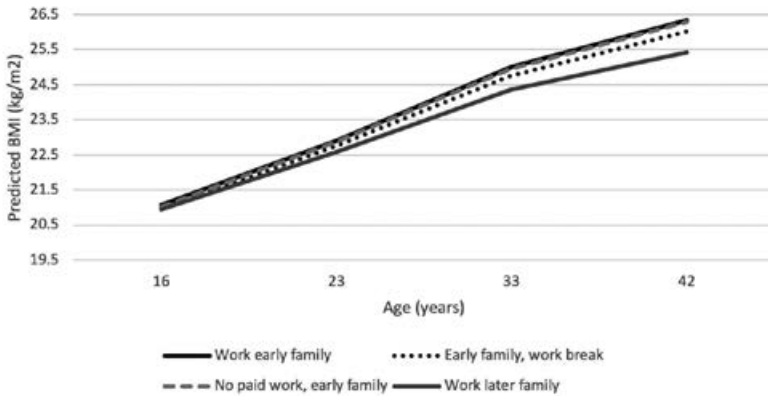
Figure 13.1 *Work-family lifecourse groups (from age 16 to 42) for women and men in the NSHD 1946 British birth cohort, NCDS 1958 British birth cohort and the BCS 1970 British birth cohort*

qualifications were most likely to have weak work and family ties), these associations did not change significantly across cohorts. Other aspects of early life were also important. Parental separation became a less important predictor of work-family lifecourses across cohorts. In the NSHD, parental separation was associated with being in the 'Work, Divorced Parent' group for women and the 'Unstable Work, No Family' group for men. In the NCDS, parental separation was associated with being a 'Teen parent', but there were no significant associations between parental separation and work-family lifecourses in the BCS. Women in the 'No Paid Work, Early Family' group were the most likely to have a father in an unskilled manual occupation and this was true across the three cohorts.

So, work-family lifecourses changed significantly across cohorts with fewer women in the NCDS, and especially the BCS, maintaining long periods out of employment to look after the family. However, results suggest that women in these later cohorts who did take long periods of time out of employment had worse health on some indicators than those who combined long-term employment with family. Biomarker data are not yet available in the BCS study but inflammatory and metabolic markers and cortisol (a neuroendocrine marker of stress) were collected in the NCDS when participants were in their mid-40s. Compared with those who combined strong ties to paid work with later transitions to stable family lives (our 'Work, Later Family' group), those who combined early parenthood with stable partnership and long periods of time out of paid work to look after home and family had significantly higher levels of the inflammatory marker fibrinogen in their mid-40s. Teen parents also had significantly higher levels of two inflammatory markers, independent of childhood health and socioeconomic position, adult socioeconomic position, health behaviours and BMI (Lacey et al., 2016a). We did not find any associations between work-family lifecourses and cortisol.

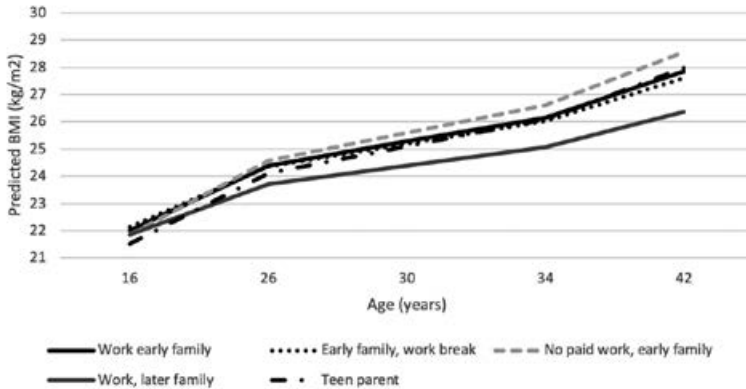
When we looked at the metabolic markers we had investigated in the NSHD, we found that lifecourses characterised by earlier transitions into parenthood were associated with significantly increased metabolic risk, regardless of attachment to paid work or marital stability over the lifecourse, and these associations were only partially attenuated by educational qualifications, early life circumstances and adult mediators, such as social class, health behaviours and BMI (McMunn et al., 2015a). This prompted a follow-on study focused specifically on age of entry to parenthood in which we found a step-wise increase in metabolic risk with decreases in age of entry to parenthood for both men and women, suggesting psychosocial and/or behavioural rather than strictly biological cause mechanisms (Lacey et al., 2017a).

The one objective marker of health that was available across all three birth cohort studies was obesity (Figure 13.2). As with inflammation, work-family lifecourses characterised by earlier transitions to parenthood and weaker long-term links to employment were associated with greater increases in BMI across adulthood. Also, the strength of differences in BMI for women who spent long periods of time out of paid work to look after the family compared with mothers who maintain full-time employment appeared to increase across cohorts as the 'long-term homemaker' became less normative, and less common, amongst generation X (Lacey et al., 2017b).



Source: From Lacey et al. (2017b).

Figure 13.2a Age trajectories in average BMI by work-family lifecourse groups amongst women in the NCDS 1958 cohort and the BCS 1970 cohort, age 16–42



Source: From Lacey et al. (2017b).

Figure 13.2b Age trajectories in average BMI by work-family lifecourse groups amongst women in the NCDS 1958 cohort and the BCS 1970 cohort, age 16–42

### 13.4 CONCLUSION AND LOOKING FORWARD: GENDER EQUALITY FOR MILLENNIAL PARENTS?

This work has shown that women who spend long periods of time out of the labour market to look after home and family end up less healthy on a range of markers compared with women who combine paid employment with stable partnership and parenthood, and the suggestion that these health differences are becoming stronger for more recent generations of women for whom long periods out of the labour market are becoming rare. While long periods of the

lifecourse spent out of paid employment to look after home and family were very uncommon amongst generation X women, they remained much more likely than their male peers to take work breaks or reduce working hours in response to parenthood. Our work has found that, so far, generational change in this area is almost entirely the result of a greater proportion of women adopting traditionally ‘male’ employment patterns (that is, continuous full-time employment) rather than any discernible trend towards men reducing hours or taking time off work to accommodate parenthood (McMunn et al., 2015b) and studies of domestic labour consistently show women performing the majority of unpaid domestic work in the UK and elsewhere (Craig and Mullan, 2011; Kan et al., 2011; Schober, 2013). While improvements in maternity leave provision in the UK, such as the extension to 12 months leave in 2006, have been a welcome contribution towards supporting mothers to maintain employment and help avoid career damaging work breaks, the gender imbalance in domestic labour has perhaps not been helped by privileging maternity leave over paternity leave. Studies suggest that fathers who are involved in parenting early on remain more involved over time (McMunn et al., 2017), yet UK fathers have access to only two weeks of statutory paternity leave; in addition, shared parental leave, which became available in the UK in April 2015, can only be accessed if mothers opt to give some of this provision to their partners and uptake remains very low at 2 to 8 per cent (UK Department for Business, 2018). Evidence from Nordic countries suggests that provision of adequately paid, ‘use it or lose it’ paternity leave provision and high quality, affordable childcare are prerequisites for achieving uptake of paternity leave and greater gender equality in employment (Brandth and Kvande, 2018).

Are these gender differences likely to remain for Millennial parents and, now that working motherhood is the norm, is the question about the health impacts of juggling paid work and family responsibilities obsolete? There is certainly a growing narrative of Millennial men wanting to be more involved in family life (Harrington et al., 2017). However, there is little quantitative evidence to support this narrative. Once again, we suffer from lack of lifecourse data to capture social change amongst the most recent generations. One reason for the lack of work and family data on Millennial parents is that they are forming their families later than previous cohorts and so many have not yet become parents. We also do not currently have a birth cohort study that captures Millennials, although *Understanding Society* (the UK Household Longitudinal Study) and *Next Steps* (a longitudinal study from age 14 of people born in 1989–90) provide some opportunity for studying Millennials going forward. While the inclusion of men in research on this topic has sometimes felt aspirational and mostly to raise awareness of continued inequality than actually measuring behaviour change amongst men, it remains crucial that men are central to research in this area going forward as it is the only way to document the extent of reductions or continuity in gender inequality.

Maintaining the UK’s leadership in producing birth cohort data on current generations is crucial to understanding the health and social implications of social change in behaviour, attitudes, economic opportunities, family and social relations and the structural dimensions of inequality to inform policy and practice for generations to come.

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## REFERENCES

- Arber S. (1991), 'Class, paid employment and family roles: making sense of structural disadvantage, gender and health status', *Social Science & Medicine*, **32**, 425–36.
- Arber S. (1997), 'Comparing inequalities in women's and men's health: Britain in the 1990s', *Social Science & Medicine*, **44**, 773–87.
- Argyrous G., Craig L. and Rahman S. (2017), 'The effect of a first born child on work and childcare time allocation: pre-post analysis of Australian couples', *Social Indicators Research*, **131**(2), 831–51.
- Barban N. and Billari F.C. (2012), 'Classifying life course trajectories: a comparison of latent class and sequence analysis', *Applied Statistics*, **61**(5), 1–20.
- Barker D.J. (1998), 'In utero programming of chronic disease', *Clinical Science (London)*, **95**, 115–28.
- Barnett R. and Hyde J. (2001), 'Women, men, work and family. An expansionist theory', *American Psychologist*, **56**, 781–96.
- Bartley M., Popay J. and Plewis I. (1992), 'Domestic conditions, paid employment and women's experience of ill health', *Sociology of Health and Illness*, **14**, 313–43.
- Bartley M., Sacker A., Firth D. et al. (1999), 'Social position, social roles and women's health in England: changing relationships 1984–1993', *Social Science & Medicine*, **48**, 99–115.
- Belli R.F., Smith L.M., Andreski P.M. and Argrawal S. (2007), 'Methodological comparisons between CATI event history calendar and standardized conventional questionnaire instruments', *Public Opinion Quarterly*, **71**(4), 603–22.
- Berney L.R. and Blane D.B. (1997), 'Collecting retrospective data: accuracy of recall after 50 years judged against historical records', *Social Science & Medicine*, **45**(10), 1519–25.
- Blomgren J., Martikainen P., Grundy E. and Koskinen S. (2012), 'Marital history 1971–91 and mortality 1991–2004 in England & Wales and Finland', *Journal of Epidemiology and Community Health*, **66**, 30–6. doi:10.1136/jech.2010.110635
- Bolton P. (2007), *Education: Historical Statistics*. Nottingham: House of Commons Library.
- Brandth B. and Kvande E. (2018), 'Fathers' sense of entitlement to ear-marked and shared parental leave', *The Sociological Review*, **67**(5), 1154–69.
- Brockmann H. and Klein T. (2004), 'Love and death in Germany: the marital biography and its effect on mortality', *Journal of Marriage and Family*, **66**, 567–81.
- Burström B. and Fredlund P. (2001), 'Self-rated health: is it as good a predictor of subsequent mortality among adults in lower as well as in higher social classes?', *Journal of Epidemiology and Community Health*, **55**, 836–40.
- Chandola T. and Zhang N. (2018), 'Re-employment, job quality, health and allostatic load biomarkers: prospective evidence from the UK Household Longitudinal Study', *International Journal of Epidemiology*, **47**(1), 47–57. <https://doi.org/10.1093/ije/dyx150>
- Chandola T., Booker C., Kumari M. and Benzeval M. (2019), 'Are flexible work arrangements associated with lower levels of chronic stress-related biomarkers? A study of 6025 employees in the UK Household Longitudinal Study', *Sociology*, **53**(4), 779–99.
- Clouston S.A.P., Lawlor A. and Verder A.M. (2014), 'The role of partnership status on late-life physical function', *Canadian Journal of Aging/La Revue canadienne du vieillissement*, **33**, 413–25.
- Coen-Pirani D., Leon A. and Lugauer S. (2010), 'The effect of household appliances on female labor force participation: evidence from micro data', *Labour Economics*, **17**(3), 503–13.
- Coleman L. and Glenn F. (2009), *When Couples Part: Understanding the Consequences for Adults and Children*. London: OnePlusOne.
- Coltrane S., Miller E.C., DeHaan T. and Stewart L. (2013), 'Fathers and the flexibility stigma', *Journal of Social Issues*, **69**(2), 279–302.

- Craig L. and Mullan K. (2011), 'How mothers and fathers share childcare: a cross-national time-use comparison', *American Sociological Review*, **76**(6), 834–61.
- Crompton R. (2006), *Employment and the Family: The Reconfiguration of Work and Family Life in Contemporary Societies*. Cambridge: Cambridge University Press.
- Dannefer D. (2003), 'Cumulative advantage/disadvantage and the life course: cross-fertilizing age and social science theory', *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, **58**(6), S327–S337.
- Dex S., Joshi H. and Macran S. (1996), 'A widening gulf among Britain's mothers', *Oxford Review of Economic Policy*, **12**(1), 65–75.
- Dex S., Ward H. and Joshi H. (2008), 'Changes in women's occupations and occupational mobility over 25 years', in J. Scott, S. Dex and H. Joshi (eds), *Women and Employment: Changing Lives and New Challenges*. Cheltenham, UK and Northampton, MA, USA: Edward Elgar Publishing, pp. 54–80.
- Dupré M.E., Beck A.N. and Meadows S.O. (2009), 'Marital trajectories and mortality among US adults', *American Journal of Epidemiology*, **170**, 546–55.
- Elder G.G. (1998), 'The life course as developmental theory', *Child Development*, **69**(1), 1–12.
- Elliott J. and Shepherd P. (2006), 'Cohort profile: 1970 British birth cohort', *International Journal of Epidemiology*, **35**(4), 836–43.
- Esping-Andersen G. (2009), *The Incomplete Revolution: Adapting to Women's New Roles*. Cambridge: Polity Press.
- Flint E., Bartley M., Shelton N. and Sacker A. (2013), 'Do labour market status transitions predict changes in psychological well-being?', *Journal of Epidemiology and Community Health*, **67**(9), 796–802.
- Friedan B. (1963), *The Feminine Mystique*. New York: W.W. Norton & Co.
- Gauthier J.A., Widmer E.D. and Notredame C. (2013), 'Multichannel optimal matching: a multidimensional approach to sequence analysis', in R. Levy and E.D. Widmer (eds), *Gendered Life Courses*. Berlin: Lit Verlag, pp. 245–64.
- Gove W.R. (1984), 'Gender differences in mental and physical illness: the effects of fixed and nurturant roles', *Social Science & Medicine*, **19**, 77–84.
- Grundy E.M. and Tomassini C. (2010), 'Marital history, health and mortality among older men and women in England and Wales', *BMC Public Health*, **10**, 554.
- Guardian (2019), 'Working mothers up to 40% more stressed', 27 January.
- Guralnik J.M., Butterworth S., Patel K., Mishra G. and Kuh D. (2009), 'Reduced midlife physical functioning among never married and childless men: evidence from the 1946 British Birth Cohort Study', *Aging Clinical and Experimental Research*, **21**, 174–81.
- Halpin B. (2012), *Multiple Imputation for Life-course Sequence Data*. Limerick: University of Limerick.
- Halpin B. (2013), *Imputing Sequence Data: Extensions to Initial and Terminal Gaps, Stata's mi*. Limerick: University of Limerick.
- Hansen K., Hawkes D. and Joshi H. (2009), 'The timing of motherhood, mother's employment and child outcomes', in J. Stillwell, E. Coast and D. Kneale (eds), *Fertility, Living Arrangements, Care and Mobility*. Dordrecht: Springer, pp. 59–80.
- Harrington B., Fraone J.S. and Lee J. (2017), *The New Dad: The Career-Caregiving Conflict*. Boston, MA: Boston College.
- Hedel K., Mejia-Guevara I., Avendano M. et al. (2016), 'Work–family trajectories and the higher cardiovascular risk of American women relative to women in 13 European countries', *American Journal of Public Health*, **106**(8), 1449–56. doi: 10.2105/AJPH.2016.303264
- Hertzman C. and Boyce T. (2010), 'How experience gets under the skin to create gradients in developmental health', *Annual Review of Public Health*, **31**, 329–47.
- Hibbard J. and Pope C. (1991), 'Effects of domestic and occupational roles on morbidity and mortality', *Social Science & Medicine*, **32**, 805–11.
- Hochschild A.R. (1983), *The Managed Heart: The Commercialization of Human Feeling*. Berkeley and Los Angeles, CA: University of California Press.
- Hochschild A.R. (1989), *The Second Shift: Working Parents and the Revolution at Home*. New York: Viking Penguin.

- Hughes A., McMunn A., Bartley M. and Kumari M. (2014), 'Elevated inflammatory biomarkers during unemployment: modification by age and country in the UK', *Journal of Epidemiology and Community Health*, **69**(7). <http://dx.doi.org/10.1136/jech-2014-204404>
- Hughes A., Kumari M., McMunn A. and Bartley M. (2017), 'Unemployment and inflammatory markers in England, Wales and Scotland, 1998–2012: meta-analysis of results from 12 studies', *Brain, Behaviour & Immunity*, **64**, 91–102. <https://doi.org/10.1016/j.bbi.2017.03.012>
- Janzen B.L. and Muhajarine N. (2003), 'Social role occupancy, gender, income adequacy, life stage and health: a longitudinal study of employed Canadian men and women', *Social Science & Medicine*, **57**(8), 1491–503. doi: 10.1016/s077-9536(02)00544-0
- Kan M.Y., Sullivan O. and Gershuny J. (2011), 'Gender convergence in domestic work: discerning the effect of interactional and institutional barriers from large-scale data', *Sociology*, **45**(2), 234–51.
- Kelly-Irving M., Tophoven S. and Blane D. (2015), 'Life course research: new opportunities for establishing social and biological plausibility', *International Journal of Public Health*. doi: 10.1007/s00038-015-0688-5
- Kendig H. and Nazroo J. (2016), 'Life course influences on inequalities in later life: comparative perspectives', *Journal of Population Ageing*, **9**(1–2), 1–7.
- Kiernan K. and Diamond I. (1983), 'The age at which childbearing starts – a longitudinal study', *Population Studies*, **37**, 363–80.
- Kiernan K. and Eldridge S.M. (1987), 'Age at marriage: inter and intra cohort variation', *The British Journal of Sociology*, **38**(1), 44–65.
- Kostianen E., Martelin T., Kestila L., Martikainen P. and Kostinen S. (2009), 'Employee, partner, and mother: women's three roles and their implications for health', *Journal of Family Issues*, **30**(8), 1122–50. doi: 10.1177/0192513X08329597
- Kreiger N. (2005), 'Embodiment: a conceptual glossary for epidemiology', *Journal of Epidemiology and Community Health*, **59**, 350–5.
- Kuh D., Ben Shlomo Y. and Susser E. (eds) (2004), *A Life Course Approach to Chronic Disease Epidemiology*. Oxford: Oxford University Press.
- Kuhhirt M. (2012), 'Childbirth and the long-term division of labour within couples: how do substitution, bargaining power and norms affect parents' time allocation in West Germany?', *European Sociological Review*, **28**(5), 565–82.
- Lacey R.E., Kumari M., Sacker A., Stafford M., Kuh D. and McMunn, A. (2016a), 'Work-family life courses and metabolic markers in the MRC National Survey of Health and Development', *PLoS One*. <https://doi.org/10.1371/journal.pone.0161923>
- Lacey R., Stafford M., Sacker A. and McMunn A. (2016b), 'Work-family life courses and subjective wellbeing in the MRC National Survey of Health and Development (the 1946 British birth cohort study)', *Journal of Population Ageing*, **9**, 69–89. doi: 10.1007/s12062-015-9126-y
- Lacey R.E., Kumari M., Sacker A. and McMunn A. (2017a), 'Age at first birth and Lacey R.E., Sacker A., Kumari M. et al. (2016c), 'Work-family life courses and markers of stress and inflammation in mid-life: evidence from the National Child Development Study', *International Journal of Epidemiology*, **45**(4), 1247–59. <https://doi.org/10.1093/ije/dyv205>
- cardiovascular risk factors in the 1958 British birth cohort', *Journal of Epidemiology and Community Health*, **71**, 691–8.
- Lacey R.E., Sacker A., Bell S. et al. (2017b), 'Work-family life courses and BMI trajectories in three British birth cohorts', *International Journal of Obesity*, **41**, 332–9.
- Lahelma E., Arber S., Kivela K. et al. (2002), 'Multiple roles and health among British and Finnish women: the influence of socioeconomic circumstances', *Social Science & Medicine*, **54**, 727–40.
- Lesnard L. (2010), 'Setting cost in optimal matching to uncover contemporaneous socio-temporal patterns', *Sociological Methods & Research*, **38**, 389–419.
- Lucas R.E. (2005), 'Time does not heal all wounds: a longitudinal study of reaction and adaptation to divorce', *Psychological Science*, **16**, 945–50.
- Macran S., Clarke L., Sloggett A. et al. (1994), 'Women's socio-economic status and self-assessed health: identifying some disadvantaged groups', *Sociology of Health and Illness*, **16**, 182–208.
- Macran S., Joshi H. and Dex S. (1996), 'Employment after childbearing: a survival analysis', *Work, Employment and Society*, **10**(2), 273–96.

- Marmot M.G. and Wilkinson R. (eds) (2005), *Social Determinants of Health*, 2nd edn. Oxford: Oxford University Press.
- Martikainen P. (1995), 'Women's employment, marriage, motherhood and mortality: a test of the multiple role and role accumulation hypotheses', *Social Science & Medicine*, **40**, 199–212.
- McDonough P., Worts D., Booker C., McMunn A. and Sacker A. (2015), 'Cumulative disadvantage employment-marriage, and health inequalities among American and British mothers', *Advances in Life Course Research*, **25**, 49–66.
- McMunn A., Bartley M., Hardy R. and Kuh D. (2006), 'Life course social roles and women's health in mid-life: causation or selection?', *Journal of Epidemiology and Community Health*, **60**, 484–9. doi: 10.1136/jech.2005.042473
- McMunn A., Lacey R.E., Kumari M., Worts, D., McDonough, P. and Sacker, A. (2015a), 'Work-family life courses and metabolic markers in mid-life: evidence from the British National Child Development Study', *Journal of Epidemiology and Community Health*, **70**, 481–7.
- McMunn A., Lacey R., Worts D. et al. (2015b), 'De-standardization and gender convergence in work-family life courses in Great Britain: a multi-channel sequence analysis', *Advances in Life Course Research*, **26**, 60–75.
- McMunn A., Martin P., Kelly Y. and Sacker A. (2017), 'Fathers' involvement: correlates and consequences for child socioemotional behavior in the United Kingdom', *Journal of Family Issues*, **38**(8), 1109–31.
- Morgan D. (2011), 'Locating "family practices"', *Sociological Research Online*, **16**(4), 174–82.
- Morris S. and Earl K. (2017), *Health Survey for England 2016 Well-being and Mental Health*. NHS Digital.
- Moser K.A., Pugh H.S. and Goldblatt P.O. (1990), 'Inequalities in women's health in England and Wales: mortality among married women according to social circumstances, employment characteristics and life-cycle stage', *Genus*, **XLVI**, 71–84.
- Nordenmark M. (2004), 'Multiple social roles and well-being: a longitudinal test of role stress theory and the role expansion theory', *Acta Sociologica*, **47**, 115–26.
- Nyman S., Staland C., Spak L. and Hensing G. (2012), 'Multiple social roles, health, and sickness absence – a five year follow-up study of professional women in Sweden', *Women & Health*, **52**(4). doi: 10.1080/03630242.2012.667527
- O'Rand P.A. (2009), 'Cumulative processes in the life course', in G.H. Elder, Jr and J. Giele (eds), *The Craft of Life Course Research*. New York: The Guilford Press, pp. 121–39.
- Office for National Statistics (2011), *Lone Parents with Dependent Children: 2011*.
- Office for National Statistics (2012), *Marriages in England and Wales: 2012*.
- Office for National Statistics (2013a), *Women in the Labour Market: 2013*.
- Office for National Statistics (2015), *English Life Tables No. 17: 2010 to 2012*.
- Pachana N.A., McLaughlin D., Leung J., McKenzie S.J. and Dobson A. (2011), 'The effect of having a partner on activities of daily living in men and women aged 82–87 years', *Maturitas*, **68**, 286–90.
- Pearson H. (2016), *The Life Project: The Extraordinary Story of Our Ordinary Lives*. Falkirk: Allen Lane.
- Phillips D., Curtice J., Phillips M. and Perry J. (eds) (2018), *British Social Attitudes: The 35th Report*. London: The National Centre for Social Research.
- Pollock G. (2007), 'Holistic trajectories: a study of combined employment, housing and family careers by using multiple sequence analysis', *Journal of the Royal Statistical Society*, **170**(1), 167–83.
- Power C. and Elliott J. (2006), 'Cohort profile: 1958 British birth cohort', *International Journal of Epidemiology*, **35**(1), 34–41.
- Repetti R.L. (1998), 'Multiple roles', in E.A. Blechman and K.D. Brownell (eds), *Behavioral Medicine and Women: A Comprehensive Handbook*. New York: The Guilford Press, pp. 162–8.
- Repetti R.L., Matthews K. and Waldron I. (1989), 'Employment and women's health', *American Psychologist*, **44**, 1394–401.
- Rowbotham S. (1999), *A Century of Women: The History of Women in Britain and the United States*. Harmondsworth, Middlesex: Penguin.
- Sabbath E.L., Guevara I.M., Glymour M. and Berkman L.F. (2015), 'Use of life course work-family profiles to predict mortality risk among US women', *American Journal of Public Health*, **105**(4), e96–e102.



- Schober P.S. (2013), 'The parenthood effect on gender inequality: explaining the change in paid and domestic work when British couples become parents', *European Sociological Review*, **29**(1), 74–85.
- Stevenson B. and Wolfers J. (2009), 'The paradox of declining female happiness', Working Paper 14969, National Bureau of Economic Research, Cambridge, MA. <http://www.nber.org/papers/w14969> (accessed 2 March 2020).
- Stone J., Evandrou M., Falkingham J. and Vlachantoni A. (2015), 'Women's economic activity trajectories over the life course: implications for the self-rated health of women aged 64+ in England', *Journal of Epidemiology and Community Health*, **69**, 873–9.
- The Times (2010), 'Are working mothers too busy to live?' 22 June.
- UK Department for Business (2018), 'Share the Joy' campaign. <https://www.gov.uk/government/news/new-share-the-joy-campaign-promotes-shared-parental-leave-rights-for-parents> (accessed 2 March 2020).
- Umberson D., Chen M.D., House J.S., Hopkins K. and Slaten E. (1996), 'The effect of social relationships on psychological well-being: are men and women really so different?', *American Sociology Review*, **61**, 837–57.
- van der Lippe T. and Peters P. (2007), *Competing Claims in Work and Family Life*. Cheltenham, UK and Northampton, MA, USA: Edward Elgar Publishing.
- Verbrugge L. (1983), 'Multiple roles and physical health of women and men', *Journal of Health and Social Behavior*, **24**, 16–30.
- Wadsworth M., Kuh D., Richards M. and Hardy R. (2006), 'Cohort profile: the 1946 national birth cohort (MRC national survey of health and development)', *International Journal of Epidemiology*, **35**(1), 49–54.
- Wahrendorf M. (2015), 'Previous employment histories and quality of life in older ages: sequence analyses using SHARELIFE', *Ageing and Society*, **35**(9), 1928–59. doi:10.1017/S0144686X14000713
- Waldron I., Weiss C.C. and Hughes M.E. (1998), 'Interacting effects of multiple roles on women's health', *Journal of Health and Social Behavior*, **39**, 216–36.
- Waldron I., McCloskey C. and Earle I. (2005), 'Trends in gender differences in accidents mortality: relationships to changing gender roles and other societal trends', *Demographic Research*, **13**, 415–54.
- Weatherall R., Joshi H. and Macran S. (1994), 'Double burden or double blessing? Employment, motherhood and mortality in the longitudinal study of England and Wales', *Social Science & Medicine*, **38**, 285–97.
- Williams K. (2003), 'Has the future of marriage arrived? A contemporary examination of gender, marriage, and psychological wellbeing', *Journal of Health and Social Behavior*, **44**, 470–87.
- Wood N., McMunn A., Webb E. and Stafford M. (2019), 'Marriage and physical capability at mid to later life in England and the USA', *PLoS One*. <https://doi.org/10.1371/journal.pone.0209388>
- Yin S. (2007), *Gender Disparities in Health and Mortality*. Washington, DC: Population Reference Bureau.

# PART V

## MIGRATION AND MOBILITY OVER THE LIFECOURSE

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## 14. The case for a lifecourse perspective on mobility and migration research

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### 14.1 RESEARCH ON MOBILITY AND THE LIFECOURSE: AN INTRODUCTION

This chapter will argue that lifecourse theory has a central role to play in understanding contemporary population mobilities. It begins with a summary of existing lifecourse and mobility research. Using the example of residential mobilities in the UK, the authors then illustrate some practical advantages of lifecourse perspectives on migration. The chapter concludes by outlining a potential agenda for future research in this field.

The concept of the lifecourse has been extensively and fruitfully utilised as a means of considering how the propensity to migrate varies by age and/or life 'stage' (Falkingham et al., 2016; Kōu et al., 2015). Defined as 'an age graded sequence of socially defined roles and events that are enacted over historical time and place' (Elder et al., 2003, p. 15), the lifecourse perspective is an important, if not essential, framework for analysts interested in understanding and explaining population mobility. Traditionally, migration research operated on the premise that individuals exhibit regularities of mobility across the life cycle as they pass through a relatively rigid series of age-defined stages (Glick, 1947; Rossi, 1955). A school of thought has since evolved which has encouraged scholars to embrace a lifecourse rather than life cycle approach (Clark et al., 2006; Mulder and Hooimeijer, 1999). This development acknowledged that the life cycle approach over-emphasised individual lives as a series of fixed, irreversible stages often tied to family building and reproduction. The concept of lifecourse by contrast takes greater account of the increasing flexibility in the timing and sequencing of lifecourse events, family building (or not) and mobilities characteristic of contemporary societies. The value of the lifecourse approach in terms of understanding migration is that it encourages analysis of the context of an individual's life experiences and trajectories as a means of better understanding their movements between various statuses, roles and locations.

Despite the lifecourse approach becoming the focus of much academic interest there has remained limited investigation of the relation between the changing nature of the lifecourse and emergent patterns of human mobility (Coulter et al., 2016; Wingens et al., 2011). We would argue that theoretical frameworks such as Elder et al.'s (2003) seminal elucidation of five fundamental principles of the lifecourse (the lifespan, human agency, time and place, timing and linked lives) have the potential to also advance theorisations of mobilities in relation to the diversity of sequences, timings and multiplicities of key lifecourse events. As is evident in the wide range of contributions to this volume, the lifecourse perspective has made a significant contribution to research on various aspects of demographic change. However, scholars in population studies have not fully exploited the potential of advances within the mobilities literature, which have led to new conceptualisations of human movements, into their engagement with the lifecourse. Throughout this chapter the authors attempt to illustrate

how contemporary understandings of mobility, when applied to the lifecourse, can aid understandings of human movement. To help the reader contextualise these arguments, the next paragraph provides a brief outline of the ‘mobilities turn’ in migration studies. The following section draws on Elder et al.’s (2003) five principles, and other prominent lifecourse theories to set out a case for why the lifecourse can aid understandings of population mobility and lifecourse inequalities, providing examples of migration research along those themes.

In contrast to conventional models of society, which tend to have a sedentarist bias whereby spatial mobility is regarded as an anomaly from the ordinary settled life, the ‘mobilities turn’ over the past two decades has instead focused on the ‘incessant mobility of the (post-)modern era’ (Cresswell, 2006, quoted in King, 2012, p. 143). This perspective not only emphasises the prevalence of and meanings attached to human movement, and thus the quantitative and qualitative significance of migration in everyday life, but also pays close attention to the many forms, scales, practices and technologies that mobility takes. Such a stance is to be welcomed in that it unsettles the sedentarist tradition within social science yet at the same time is careful not to overly romanticise mobility, recognising that such ‘freedom’ is heavily influenced by wider structures in society (Halfacree, 2012). Indeed, as will be discussed in relation to the case study presented in this chapter, immobility is increasingly being incorporated into the new mobilities framework (Cresswell, 2012). Despite these advantages, the mobilities turn has not been fully embraced by geographers studying migration, perhaps because some of the claims made within it are seen as being self-evident (King, 2012). However, as Findlay et al. (2015) note and as illustrated in this chapter, recent advances in mobilities research offer many useful insights into relocations of place of normal residence for periods ranging from months to years. In line with Smith et al. (2015), migration in the context of this chapter is taken to mean a relatively permanent change in residential location whereas mobility incorporates these moves but also the shorter-term relocations that increasingly characterise contemporary lifecourses.

## 14.2 THE CASE FOR A MOBILITIES PERSPECTIVE ON SPATIAL MOVEMENTS OVER THE LIFECOURSE

### 14.2.1 Changing Lifespans

One of the most remarkable demographic shifts in recent decades in high-income countries has been the extension and de-standardisation of the lifecourse (Bailey, 2009; Elder et al., 2003). This process has had far-reaching social, economic and political implications, but also shaped population mobilities in significant ways. Demographic phenomena such as increases in solo living, postponement of partnership and childbearing, rising divorce rates, non-traditional family structures, living apart together, greater participation in higher education, later retirement ages and the geographic dissociation between work and the workplace have all contributed to changing lifecourses and thus mobilities (Smith et al., 2015).

The phenomenon of population ageing in particular demands a reconceptualisation of the interplay between residential mobilities and forces responsible for the increased span of human life. Rising life expectancy (and rising healthy life expectancy) has introduced more years in the latter part of the lifecourse, resulting in new residential relocations, including so-called lifestyle migration (Åkerlund, 2017; Cohen et al., 2015) and retirement migrations (Sander

and Bell, 2014). The concept of ‘*encore adulthood*’ (Moen, 2016) sees ageing as an evolving experience rather than just a life stage and seeks to acknowledge the diverse motivations and pathways of older people. This includes, for many of the current ‘*baby boomer*’ generation, freedom to experiment with career paths, partnerships and relocations. Health-motivated moves, especially in the ‘*fourth age*’ such as moves into residential care or retirement communities, and their consequences have received much attention (Koss and Ekerdt, 2017; van der Pers et al., 2018), as have health-related returns to country of origin – the so-called ‘*salmon bias*’ in the migration health literature (Wallace and Kulu, 2018). On the other hand, a growing literature addresses understandings of later life immobility, particularly the idea of ‘*aging in place*’ (Atkins, 2018). Demographic changes in longevity have also led to questions about the role of migration and other mobilities in maintaining links between the generations across the extended lifespan (Kolk, 2017; Lundholm and Malmberg, 2009).

At the other end of the lifecourse, social researchers have argued that the meanings attached to young adulthood have also changed, and that these ‘*meanings*’ in turn have been responsible for new mobilities and immobilities. Arnett (2000), for example, has argued that the meaning of being a young adult has shifted in a profound way, impacting the mobilities linking young people with the location of their parents (Stone et al., 2014). Arnett (2000) proposes ‘*emergent adulthood*’ as a concept to help explore new mobilities such as ‘*boomeranging*’ back and forth between the temporary independent residential locations of young people (associated with temporary study, precarious work and short-term coupling) and the parental home of emergent adults.

Elder et al. (2003) also highlighted the importance of lifelong continuous development, in contrast to previous scholars’ perceived over-emphasis on development being concentrated only during childhood and adolescence. By implication they point to the interesting research question of whether migration at various stages through the lifecourse between different environments impacts on wellbeing and longevity, thus positioning migration as a causal force in demographic change and not, as is usually argued, a response to lifecourse change. The rapidly expanding literature on migrant health and wellbeing has explored differences in the physical and emotional wellbeing of migrants and non-migrants (Gruer et al., 2016; Wallace and Kulu, 2015), and various candidate mechanisms that might explain the migrant health advantage have been investigated, including the aforementioned ‘*salmon bias*’ and educational and health/health behaviour selectivity (Hayes et al., 2017; Ichou and Wallace, 2019; Wallace and Kulu, 2014). Furthermore, the availability of data on the lifecourse timing of migration enables investigation of whether there are ‘*sensitive*’ periods in the lifespan for migration which have a greater or lesser impact on subsequent outcomes (Gubernskaya, 2014; Guven and Islam, 2015; Hermansen, 2017). More remains to be done in fully developing an understanding of the role of internal migration in the uneven ‘*accumulation of experiences, resources and vulnerabilities*’ (Bailey, 2009, p. 411) that contribute to inequalities in poor health developing across the lifecourse (Stockdale and Catney, 2014). However, with the increasing availability of detailed micro-data on residential moves over time linked to administrative data (Ernsten et al., 2018), the impact of lifecourse residential histories and their parallel trajectories of health, wellbeing and socio-economic advantage on health and wellbeing can now be examined together (de Vuijst et al., 2016; Morris et al., 2018; van Ham et al., 2014) to better unravel the complexities of accumulation of (dis)advantages over the lifespan (Dannefer, 2003; Ferraro et al., 2009).

### **14.2.2 Acknowledging Human Agency**

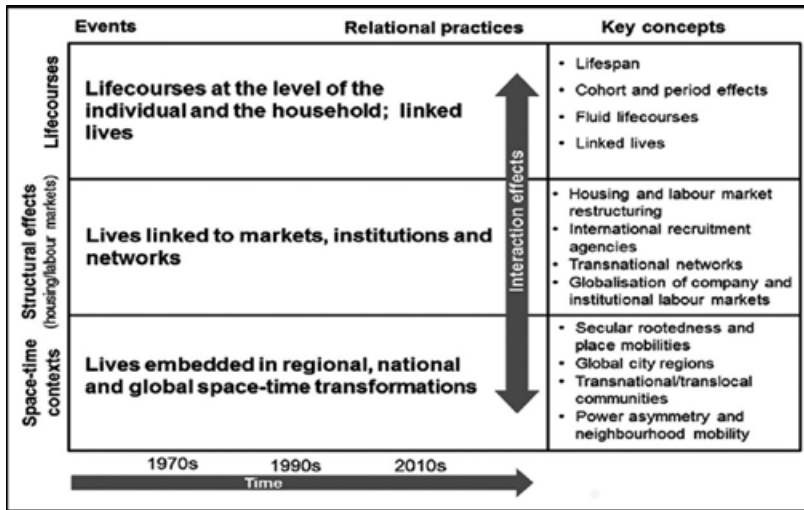
Lifecourses are structurally determined but are also the product of human agency. According to Elder et al. (2003, p. 11), ‘individuals construct their own lifecourse’; yet importantly this is clearly within ‘structured pathways’ (Hitlin and Elder, 2006). This concept has been applied within some areas of sociology and focuses on the interplay of structure and agency over time. As Wingens et al. note, ‘changing societal structures and conditions affect, via institutional regulations, lifecourse patterns and biographical plans and – in turn – changing lifecourses affect the economic, political, social, and cultural situation and the institutional regime of a society’ (2011, p. 6). The lifecourse approach helps to acknowledge that processes and patterns of migration are not merely an outcome of migrants following institutionally pre-scheduled pathways, but of them pursuing their own goals and biographical plans. Lifecourse perspectives are thus less deterministic than some other approaches to migration, while also recognising the imbalances in structural opportunities and constraints that exist within society.

As the above quote from Wingens et al. (2011) hints at, the relative significance of human agency in migration is a matter that has been explored to a limited extent in ideas about structuration (Halfacree, 1995). However, the growing availability of rich new longitudinal datasets opens up the prospect of evaluating more fully than ever before the determining influence of individual motivations for moves (Coulter and Scott, 2015; Dommermuth and Klüsener, 2017) while at the same time taking account of contextual effects (neighbourhoods and other structures) on subsequent migrations and life trajectories. This enables a more nuanced account of human agency and motivation within the ‘structuration engines’ (Coulter et al., 2013) of residential mobility or career migration.

### **14.2.3 Time and Place**

Like migration, the lifecourse is inherently geographically and historically embedded in time and place. As such, individual lifecourses and mobilities are heavily influenced by the historical context and specific location within which they play out (Findlay et al., 2015). Figure 14.1 proposes three levels of conceptual engagement, with distinctions made between (a) the changing nature of the lifecourse and its influence on mobility; (b) the links between lifecourse mobility and changing socio-economic structures; and (c) the multiple economically embedded time space contexts within which new population mobilities emerge. The framework suggests that mobility trends can be charted through historical time (horizontal axis), while indicating that the three different levels involve parallel and interwoven processes affecting the linked lives of individuals and households embedded in spatial and socio-economic structures operating at regional and global scales.

This contextualisation is essential when interpreting migration and mobility patterns. For example, a recent examination of internal migration patterns across three age cohorts in the UK (Falkingham et al., 2016) demonstrates this by simultaneously considering the importance of socio-historical context and changing gender norms, as well as individual lifecourse factors when interpreting long-term migration patterns. Sensitivity to time and place means that analysis of migration benefits greatly from such studies of the interaction between lifecourses and wider demographic, socio-economic and institutional changes.



Source: Findlay et al. (2015).

Figure 14.1 *Demographic drivers of mobility*

#### 14.2.4 Timing

The specific age at which various life events occur clearly has a significant impact on individual lifecourses. For this reason, researchers have analysed various forms of time (age, stage in family life cycle, socio-economic shifts) and how the interactions between them are impacted by individual experiences and historical events. Attention to the timing of life events also has obvious implications for migration research. For example, the most obvious significance of the second demographic transition (Van de Kaa, 2004) for the study of migration has been that it has changed the timing and nature of mobility in relation to transitions from one household state to another. The most obvious illustration of this relates to the unsettling of the traditional sequence of residential changes associated with entering adulthood. For example, delays in nest leaving (as well as ‘boomerang’ moves back to the parental home) have become increasingly prevalent (Olofssen et al., 2017). Some studies suggest that this trend has brought with it negative implications for the health and wellbeing of both parents and children (Caputo, 2019; Tosi and Grundy, 2018). Of course, these phenomena must be understood as part of a wider societal and cultural context, where expectations of the timing of residential independence may be socially stratified and vary between cultures (Pelikh and Kulu, 2018). Wider structural drivers such as housing unaffordability and precarious job markets must also be taken into account, as these are unevenly experienced, potentially contributing to growing societal inequalities (Coulter, 2018).

Increasing diversification of partnership patterns, and particularly increases in union dissolution in recent decades, drive mobilities in a number of complex ways. Recently, the exploitation of rich longitudinal datasets has enabled modelling of parallel partnership and mobility trajectories, which have highlighted heterogeneous effects of separation on mobility by factors such as gender and education (see Chapter 15 by Mikolai and Kulu in this volume).

Longitudinal data also provide the opportunity to investigate whether the changing patterns and meanings of family building and residential histories accumulate to produce different outcomes in the later lifecourse. Moreover, researchers have recognised that it is not just the timing of migration in relation to lifecourse transitions that matters but also the sequencing, and that a change in sequencing fundamentally affects the meaning of a particular migration move. There is potential to explore this further through using biographical methods to elicit deeper understandings of the multiple meanings and drivers of mobility (Beck, 1992; Findlay and Li, 1997).

#### **14.2.5 Linked Lives**

Explanation of the decision of whether or not to migrate at various points in the lifecourse has increasingly involved analysis of linked lives (Bailey, 2009). This emphasises that lifecourses are interdependent with others and has focused attention on how people within a family/household negotiate mobility decisions from different age, gender and class positions, and the consequences for them. This work has highlighted how decisions to migrate are related to nuclear family members' labour market opportunities and disbenefits, particularly for women (Cooke et al., 2009). Coulter et al. (2016) provide an extensive literature review of the implications of this for researching residential mobility and is not repeated here. More recently, Mulder (2018) has emphasised the 'family ties perspective'. This underscores the role of family outside the household in mobility decision making. It recognises the continuing importance of face-to-face relationships with kin, who often play a larger role in support networks than friends, due to enduring bonds of inter-generational solidarity and obligation. Moreover, this is likely to vary according to an individual's point in the lifecourse and welfare context.

As Figure 14.1 demonstrates, individual lifecourses are not just linked to households and families, they are also linked to markets, institutions and networks. Labour and housing markets have long been recognised as one of the key drivers and determinants of migration and other events throughout the lifecourse (Tomlinson et al., 2018; Withers and Clark, 2006). Scholarship also highlights that linked lives are the product of interactions between individuals and social institutions and groups. Institutions in this sense can refer to relatively stable features of social and cultural life such as marriage and family formation and their impact on mobility across the lifecourse (Wingens et al., 2011). The term can also apply to significant actors in the migration system such as employers and recruitment agencies, who play a central role in shaping mobility by influencing which workers are recruited, from where and for what purposes (Findlay et al., 2013). Social networks are also recognised as playing an important role in mobilities across lifecourses. In the realm of international migration, for example, informal and organisational networks provide social capital which reduces the economic and psychological costs of migration (Kōu et al., 2015). Social networks have also been demonstrated to be a significant determinant of migrant wellbeing post migration, especially for those lacking kinship networks in their host society (Ryan, 2007).



### 14.3 THE PARADOX OF DECLINING INTERNAL MIGRATION IN AN AGE OF MODERNITY AND FLUID LIFECOURSES

The previous section provided a brief overview of some of the ways in which lifecourse perspectives are increasingly being used to deepen understanding of human mobility. The focus now turns to a detailed example of how the lifecourse, along with recent methodological advances, can be applied in the context of one of the most intriguing contemporary conceptual puzzles in mobilities research, the paradox of declining internal migration in an age of modernity and fluid lifecourses.

Against the backdrop of widespread acceptance of the quantitative and qualitative significance of migration in contemporary society, recent research has identified an unexpected and potentially rather disconcerting trend: the possibility of long-term declines in address changing within high-income countries. This apparent paradox, initially identified by Cooke (2011) with regards to internal migration patterns in the USA, is of considerable significance as it challenges the long-standing wisdom that population mobility is an inevitable and positive consequence of economic and social development (Zelinsky, 1971). Indeed, as Champion and Shuttleworth (2017) aptly point out, the widespread prevalence of parlance such as the Age of Migration (Castles et al., 2014) and the New Mobilities Paradigm (Sheller and Urry, 2006) in the social sciences widely reflects and reinforces the notion that de-standardised lifecourses and their increased mobilities are a fundamental facet of modernity.

Why then, when physical mobility across space is seemingly easier than ever (at least within countries), and widely regarded as a personal and public good, might rates of address changing be slowing in high-income countries? The relevance of this issue to the wider research landscape and agenda discussed in this chapter is that empirical observations regarding changes in migration need to be framed within a backdrop of normative expectations concerning fluid lifecourses and the living of 'mobile lives', to the extent that to be immobile is considered undesirable, and even stigmatised as problematic and a marker of personal inadequacy (Halfacree, 2018). As such, recent mobilities scholarship has increasingly positioned immobility as a central facet of its retheorisations of mobility (Cresswell, 2012). Finally, a mobilities perspective can also enlighten research into the changing dynamics of internal migration as it emphasises that mobility is an ongoing, relational process across one's lifecourse and as such is not just a one-off experiential event.

As Green (2018) and Champion et al. (2018) expertly set out, a number of demographic, economic, technological and societal shifts are currently underway that could be acting to suppress rather than stimulate residential mobility and internal migration in developed countries. We identify three possible drivers of change. Firstly, in terms of economic change, the 2007–08 Great Recession and its aftermath has negatively impacted on the ability, desire and propensity of households to move. This is because the volume of new job opportunities which drive much internal migration (especially over longer distances) have been severely restricted during the economic downturn. In addition, Green (2018) argues that people become much more risk averse during these periods, thus dampening the desire to move home or work location. The effects of these macro-economic factors on decreasing the gains from and increasing the risks of migration are quite significant. Analysis in the USA suggests that as much as two-thirds of the decline in inter-county migration between 1999 and 2009 can be directly attributed to this event (Cooke, 2011). Thus, pervasive financial precarities across contemporary lifecourses could be suppressing population mobilities. Furthermore, an emphasis on vulnerabilities to

economic shocks across the lifecourse, and whether and how these are changing over time and space, enlightens important debates concerning inter-generational justice (Higgs and Giljeard, 2015) and the long-standing agency-structure quandary within the social sciences (Hitlin and Kwon, 2016).

Secondly, aside from a potentially sustained ‘period effect’ arising from behavioural changes associated with the Great Recession, deeper seated and sustained compositional shifts in the demographic profiles of high-income countries could well be conducive to less migration. The most fundamental and universal of these changes is population ageing, which is decreasing the relative share of the population that is conventionally most mobile (that is, young adults), thus leading to declining migration propensities (Frey, 2018). Unless the long-established relationship between age, the lifecourse and migration changes drastically, these changes in population age composition could significantly reduce future internal migration rates. Other important lifecourse developments that have been cited as potentially leading to less population mobility include higher levels of home ownership in the post-war period and the linked lives of spouses in dual career households increasingly disrupting the conventional trailing spouse paradigm (Green, 2018). A lifecourse analytical lens is thus valuable as it encourages an emphasis on not just simply how many times an individual changes address over the course of their life but also how the complex and ever evolving nexus between age and migration is contingent upon wider demographic and economic circumstances and cultural values.

Thirdly, of the dozen or so plausible candidates suggested as accounting for reductions in internal migration (Champion et al., 2018), perhaps the most intriguing is the possibility of a growing desire for rootedness on the part of residents of high-income countries. Mainly based on research involving the traditionally relatively mobile USA, these understandings emanate from analyses which claim that socio-economic and demographic trends alone cannot account for observed declines in migration rates, since levels have fallen in a largely universal way across population sub-groups at different stages in the lifecourse and the composition of the population has not shifted to an extent that is sufficient to drastically alter aggregate migration trends (Cooke, 2011; Molloy et al., 2011). Instead, a desire for ‘moorings’, and thus choosing to be residentially rooted, may explain the apparent contradiction of falling internal migration rates in an era of mobilities (Halfacree, 2018). Alternatively, it could be a case of one form of mobility, longer distance commuting, simply replacing another, internal migration. Lifecourse perspectives, combined with longitudinal data and survey data on moving preferences, are again useful here as they help to disentangle the relative contributions of lifecourse and cohort effects in changing migration propensities (Bernard et al., 2014). This aids our understanding of whether the recent shifts in migration propensities recorded in many high-income countries can be accounted for by straightforward population composition effects or are universal across population sub-groups and thus potentially indicative of ‘secular rootedness’ (Cooke, 2011).

#### 14.4 CONCLUSIONS: THE LIFECOURSE PERSPECTIVE ON MOBILITIES, AN EVOLVING RESEARCH AGENDA

This chapter has discussed how a lifecourse perspective can aid mobility research and has illustrated how such an approach can help the researcher to understand how population mobilities are changing in quite fundamental ways (see McCollum et al., 2020 for a more in-depth discussion of this issue). As this chapter has also hoped to illustrate, there is considerable

scope for lifecourse informed research on migration within population studies to make fuller use of ideas in the mobilities literature. The desire for rootedness (resulting in less internal migration), the boomeranging of adult children to and from the parental home and the redefining of ageing are just a few examples of this point. The chapter now concludes with some suggestions concerning the types of issues that analysis of population mobility across the lifecourse might be best placed to grapple with going forward.

It has been noted that longitudinal analysis of demographic processes can help us understand the fluidity of lifecourses such as complex family histories and how this relates to parallel individual and family/household migration histories. The contention has also been made that the socio-spatial contexts of people's lives affect the timing, frequency and meanings associated with mobility. Mobility is therefore better conceptualised not only when longitudinal associations are made across the individual lifecourse, but also across time-space in relation to the structures that govern key social practices. In this light, Findlay et al.'s (2015) three-level schema (Figure 14.1) usefully reminds scholars of:

- a. The need to recognise the importance of holding simultaneously in view lifecourse moves and other time-linked drivers of mobility ranging from short-run cyclical economic processes to medium-term economic restructuring, to longer-term shifts in cultural norms.
- b. The value in recognising how events and processes operating in one arena (for example, increasingly fluid lifecourses) interface with other drivers of change (for example, hypothesised tendencies towards increased secular rootedness).

The points highlighted in the chapter lead to a range of research avenues as outlined below. These are not meant to be comprehensive but instead are intended to point readers to the ways in which the key ideas reported in Figure 14.1 might be investigated.

1. *Fluid lifecourses*: Has de-standardisation of the lifecourse affected the timing and frequency of residential mobility and/or longer distance labour market moves? These questions were considered in the main example discussed in the chapter but there is still work to be done in terms of understanding the nature, drivers and consequences of these changes.
2. *Lives linked to families and households*: From the perspective of data that now reveal more of the relationship between mobility and linked lives, can a more nuanced understanding of the drivers and consequences of migration be achieved? For example, in spatially mobile dual earner households, what have been the consequences over time in terms of changes in the financial and emotional wellbeing of each adult member of the household?
3. *Lives linked to markets, institutions and networks*: What has been the relative importance of short-, medium- and longer-term structural processes in affecting overall levels of mobility for different cohorts and types of individuals and locations? For example, what have been the uneven mobility experiences of different population sub-groups during the recession and in an era of austerity and to what extent have experiences been shaped by institutions and networks?

The challenge now facing researchers is to operationalise the concepts discussed above and exploit new opportunities in data and methods in ways that allow for meaningful analysis of mobility in the complex and socially and spatially differentiated lifecourses of contemporary societies. This chapter on lifecourse perspectives on human mobility has set out how these endeavours might proceed. However, as authors we are very aware that the chapter draws

mainly on work from relatively high-income countries. A key task for lifecourse scholars is to research how these concepts can be developed to apply to the context of the new mobilities occurring in the majority world of middle- and lower-income countries.

## REFERENCES

- Åkerlund, U. (2017). 'Strategic lifestyle management in later life: Swedish lifestyle movers in Malta seeking the "Best of both worlds"'. *Population, Space and Place* **23**(1), 1–13.
- Arnett, J. (2000). 'Emerging adulthood'. *American Psychologist* **55**, 469–80.
- Atkins, M.T. (2018). "'On the move, or staying put?'" An analysis of intrametropolitan residential mobility and ageing in place'. *Population, Space and Place* **24**(3), 1–14.
- Bailey, A. (2009). 'Population geography: lifecourse matters'. *Progress in Human Geography* **33**, 407–18.
- Beck, U. (1992). *Risk Society: Towards a New Modernity*. London: Sage.
- Bernard, A., Bell, M. and Charles-Edwards, E. (2014). 'Life-course transitions and the age profile of internal migration'. *Population and Development Review* **40**(2), 213–39.
- Caputo, J. (2019). 'Crowded nests: parent–adult child coresidence transitions and parental mental health following the Great Recession'. *Journal of Health and Social Behaviour* **60**(2), 204–21.
- Castles, S., de Haas, H. and Miller, M.J. (2014). *The Age of Migration: International Population Movements in the Modern World* (5th edn). Basingstoke: Palgrave Macmillan.
- Champion, T. and Shuttleworth, I. (2017). 'Is longer-distance migration slowing? An analysis of the annual record for England and Wales since the 1970s'. *Population, Space and Place* **23**(3), e2024.
- Champion, T., Cooke, T. and Shuttleworth, I. (2018). 'Introduction'. In T. Champion, T. Cooke and I. Shuttleworth (eds), *Internal Migration in the Developed World*. Abingdon, UK: Routledge, pp. 3–30.
- Clark, W.A.V., Deurloo, M. and Dieleman, F. (2006). 'Residential mobility and neighbourhood outcomes'. *Housing Studies* **21**, 323–42.
- Cohen, S.A., Duncan, T. and Thulemark, M. (2015). 'Lifestyle mobilities: the crossroads of travel, leisure and migration'. *Mobilities* **10**(1), 155–72.
- Cooke T.J. (2011). 'It is not just the economy: declining migration and the rise of secular rootedness'. *Population, Space and Place* **17**, 193–203.
- Cooke, T.J., Boyle, P., Couch, K. and Feijten, P. (2009). 'A longitudinal analysis of family migration and the gender gap in earnings in the United States and Great Britain'. *Demography* **46**(1), 147–67.
- Coulter, R. (2018). 'Parental background and housing outcomes in young adulthood'. *Housing Studies* **33**(2), 201–33.
- Coulter, R. and Scott, J. (2015). 'What motivates residential mobility? Re-examining self-reported reasons for desiring and making residential moves'. *Population, Space and Place* **21**(4), 354–71.
- Coulter, R., van Ham, M. and Findlay, A. (2013). 'New directions for residential mobility research: linking lives through time and space'. IZA Discussion Paper No. 7525.
- Coulter, R., van Ham, M. and Findlay, A. (2016). 'Re-thinking residential mobility: linking lives through time and space'. *Progress in Human Geography* **40**(3), 352–74.
- Cresswell, T. (2012). 'Mobilities II: still'. *Progress in Human Geography* **36**, 645–53.
- Dannefer, D. (2003). 'Cumulative advantage/disadvantage and the life course: cross-fertilizing age and social science theory'. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences* **58**(6), 327–37.
- de Vuijst, E., van Ham, M. and Kleinhans, R. (2016). 'A life course approach to understanding neighbourhood effects'. IZA Discussion Paper No. 10276.
- Dommermuth, L. and Klüsener, S. (2017). 'Formation and realisation of moving intentions across the adult life course'. *Population, Space and Place* **25**(5), 1–24.
- Elder, G.H., Johnson, M.K. and Crosnoe, R. (2003). 'The emergence and development of life course theory'. In J.T. Mortimer and M.J. Shanahan (eds), *Handbook of the Life Course*. New York: Kluwer Academic/Plenum Publishers, pp. 3–19.
- Ernsten, A., McCollum, D., Feng, Z., Everington, D. and Huang, Z. (2018). 'Using linked administrative and census data for migration research'. *Population Studies* **72**(3), 357–67.

- Falkingham, J., Sage, J., Stone, J. and Vlachantoni, A. (2016). 'Residential mobility across the life course: continuity and change across three cohorts in Britain'. *Advances in Life Course Research* **30**, 111–23.
- Ferraro, K.F., Shippee, T.P. and Schafer, M.H. (2009). 'Cumulative inequality theory for research on aging and the life course.' In V.L. Bengtson, D. Gans, N.M. Pulney and M. Silverstein (eds), *Handbook of Theories of Aging*. New York: Springer, pp. 413–33.
- Findlay, A. and Li, F.L.N. (1997). 'An auto-biographical approach to understanding migration: the case of Hong Kong emigrants'. *Area* **29**(1), 34–44.
- Findlay, A., McCollum, D., Shubin, S., Apsite, E. and Krisjane, Z. (2013). 'The role of recruitment agencies in imagining and producing the "good" migrant'. *Social and Cultural Geography* **14**(2), 145–67.
- Findlay, A., McCollum, D., Coulter, R. and Gayle, V. (2015). 'New mobilities across the life course: a framework for analysing demographically linked drivers of migration'. *Population, Space and Place* **21**(4), 390–402.
- Frey, W. (2018). 'Internal migration: what does the future hold?' In T. Champion, T. Cooke and I. Shuttleworth (eds), *Internal Migration in the Developed World*. Abingdon, UK: Routledge, pp. 265–71.
- Glick, P.C. (1947). 'The family cycle'. *American Sociological Review* **12**, 164–74.
- Green, A. (2018). 'Understanding the drivers of internal migration'. In T. Champion, T. Cooke and I. Shuttleworth (eds), *Internal Migration in the Developed World*. Abingdon, UK: Routledge, pp. 31–55.
- Gruer, L., Cézard, G., Clark, E. et al. (2016). 'Life expectancy of different ethnic groups using death records linked to population census data for 4.62 million people in Scotland'. *Journal of Epidemiology and Community Health* **70**, 1251–4.
- Gubernskaya, Z. (2014). 'Age at migration and self-rated health trajectories after age 50: understanding the older immigrant health paradox'. *Journal of Gerontology Series B: Psychological Sciences and Social Sciences* **70**(2), 279–90.
- Güven, C. and Islam, A. (2015). 'Age at migration, language proficiency and socioeconomic outcomes: evidence from Australia'. *Demography* **52**, 513–42.
- Halfacree, K. (1995). 'Household migration and the structuration of patriarchy: evidence from the USA'. *Progress in Human Geography* **19**, 159–82.
- Halfacree, K. (2012). 'Heterolocal identities? Counter-urbanisation, second homes, and rural consumption in the era of mobilities'. *Population, Space and Place* **18**, 209–24.
- Halfacree, K. (2018). 'Sedentary no longer seems apposite: internal migration in an era of mobilities'. In T. Champion, T. Cooke and I. Shuttleworth (eds), *Internal Migration in the Developed World*. Abingdon, UK: Routledge, pp. 272–84.
- Hayes, L., White, M., McNally, R.J.Q., Urwin, N., Tran, A. and Bhopal, R. (2017). 'Do cardiometabolic, behavioural and socioeconomic factors explain the "healthy migrant effect" in the UK? Linked mortality follow-up of South Asians compared with white Europeans in the Newcastle Heart Project'. *Journal of Epidemiology and Community Health* **71**, 863–9.
- Hermansen, A.S. (2017). 'Age at arrival and life chances among childhood immigrants'. *Demography* **54**(1), 201–29.
- Higgs, P. and Gilleard, C. (2015). 'Generational justice, generational habitus and the "problem" of the baby boomers'. In C. Torp (ed.), *Challenges of Aging*. New York: Springer, pp. 251–63.
- Hitlin, S. and Elder, G.H., Jr (2006). 'Agency: an empirical model of an abstract concept'. *Advances in Life Course Research* **11**, 33–67.
- Hitlin, S. and Kwon, H.W. (2016). 'Agency across the life course'. In J.T. Mortimer, M.J. Shanahan and M. Kirkpatrick Johnson (eds), *Handbook of the Life Course*. Vol. 2. New York: Springer Link, pp. 431–49.
- Ichou, M. and Wallace, M. (2019). 'The healthy immigrant effect: the role of educational selectivity in the good health of migrants'. *Demographic Research* **40**(4), 61–94.
- King, R. (2012). 'Geography and migration studies: retrospect and prospect'. *Population, Space and Place* **18**(2), 134–53.
- Kolk, M. (2017). 'A life-course analysis of geographical distance to siblings, parents, and grandparents in Sweden'. *Population, Space and Place* **23**(3), 1–16.
- Koss, C. and Ekerdt, D. (2017). 'Residential reasoning and the tug of the fourth age'. *The Gerontologist* **57**(5), 921–9.

- Kōu, A., van Wissen, L., van Dijk, J. and Bailey, A. (2015). 'A life course approach to high skilled migration: lived experiences of Indians in the Netherlands'. *Journal of Ethnic and Migration Studies* **41**(10), 1644–63.
- Lundholm, E. and Malmberg, G. (2009). 'Between elderly parents and grandchildren – geographic proximity and trends in four-generation families'. *Journal of Population Ageing* **2**(3–4), 121–37.
- McCollum, D., Ernten, A., Feng, Z. and Everington, D. (2020). 'Mobile no more? The innovative use of administrative data linked to a census-based longitudinal study to investigate migration within Scotland'. *Popul Space Place*. 2020; e2312. <https://doi.org/10.1002/psp.2312>
- Moen, P. (2016). *Encore Adulthood: Boomers on the Edge of Risk, Renewal, and Purpose*. Oxford: Oxford University Press.
- Molloy, R., Smith, C. and Wozniak, A. (2011). 'Internal migration in the United States'. *Journal of Economic Perspectives* **25**(3), 173–96.
- Morris, T., Manley, D. and Sabel, C. (2018). 'Residential mobility: towards progress in mobility health research'. *Progress in Human Geography* **42**(1), 112–33.
- Mulder, C.H. (2018). 'Putting family centre stage: ties to nonresident family, internal migration, and immobility'. *Demographic Research* **39**, 1151–80.
- Mulder, C.H. and Hooimeijer, P. (1999). 'Residential relocations in the life course'. In L. van Wissen and P. Dykstra (eds), *Population Issues: An Interdisciplinary Focus*. New York: Kluwer, pp. 159–86.
- Olofsson, J., Sander, E., Findlay, A. and Malmberg, G. (2017). 'The importance of scale in explaining return migration of young adults to the parental home and parental neighbourhood'. Centre for Population Change Working Paper 85, University of Southampton.
- Pelikh, A. and Kulu, H. (2018). 'Short-and long-distance moves of young adults during the transition to adulthood in Britain'. *Population, Space and Place* **24**(5), 1–24.
- Rossi, P.H. (1955). *Why Families Move: A Study in the Social Psychology of Urban Residential Mobility*. Glencoe, IL: Free Press.
- Ryan, L. (2007). 'Migrant women, social networks and motherhood: the experiences of Irish nurses in Britain'. *Sociology* **41**(2), 295–312.
- Sander, N. and Bell, M. (2014). 'Migration and retirement in the life course: an event history approach'. *Journal of Population Research* **31**, 1–27.
- Sheller, M. and Urry, J. (2006). 'The new mobilities paradigm'. *Environment and Planning A* **38**(2), 207–26.
- Smith, D., Finney, N., Halfacree, K. and Walford, N. (eds) (2015). *Internal Migration: Geographical Perspectives and Processes*. Farnham, UK: Ashgate.
- Stockdale, A. and Catney, G. (2014). 'A lifecourse perspective on urban-rural migration'. *Population, Space and Place* **20**, 83–98.
- Stone, J., Berrington, A. and Falkingham, J. (2014). 'Gender, turning points and boomerangs'. *Demography* **51**, 257–76.
- Tomlinson, J., Baird, M., Berg, P. and Cooper, R. (2018). 'Flexible careers across the life course: advancing theory, research and practice'. *Human Relations* **71**(1), 4–22.
- Tosi, M. and Grundy, E. (2018). 'Returns home by children and changes in parents' well-being in Europe'. *Social Science and Medicine* **200**, 99–106.
- Van de Kaa, D. (2004). 'Is the second demographic transition a useful research concept?'. *Vienna Yearbook of Population Research* **2**, 4–10.
- van der Pers, M., Kibele, E.U.B. and Mulder, C.H. (2018). 'Health and its relationship with residential relocations of older people to institutions versus to independent dwellings'. *Journal of Population Ageing* **11**(4), 329–47.
- van Ham, M., Hedman, L., Manley, D., Coulter, R. and Östh, J. (2014). 'Intergenerational transmission of neighbourhood poverty: an analysis of neighbourhood histories of individuals'. *Transactions of the Institute of British Geographers* **39**(3), 402–17.
- Wallace, M. and Kulu, H. (2014). 'Migration and health in England and Scotland: a study of migrant selectivity and salmon bias'. *Population, Space and Place* **20**(8), 694–708.
- Wallace, M. and Kulu, H. (2015). 'Mortality among immigrants in England and Wales by major causes of death, 1971–2012: a longitudinal analysis of register-based data'. *Social Science and Medicine* **147**, 209–21.

- Wallace, M. and Kulu, H. (2018). 'Can the salmon bias effect explain the migrant mortality advantage in England and Wales?'. *Population, Space and Place* **24**(8), 1–18.
- Wingens, M., Windzio, M., de Valk, H. and Aybek, C. (eds) (2011). *A Life-Course Perspective on Migration and Integration*. Dordrecht: Springer.
- Withers, S. and Clark, W. (2006). 'Housing costs and the geography of family migration outcomes'. *Population, Space and Place* **12**, 273–89.
- Zelinsky, W. (1971). 'The hypothesis of the mobility transition'. *Geographical Review* **61**, 219–49.

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## 15. Family changes, housing transitions, and residential mobility

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### 15.1 INTRODUCTION

Family changes and residential mobility are closely interrelated (Cooke, 2008). Residential mobility enables individuals and couples to adjust their housing circumstances to changes in their family lives such as partnership formation, childbirth, or union dissolution (Wagner and Mulder, 2015a). Most previous studies have focused on how partnership formation or childbirth is linked to residential changes and housing transitions. These studies have shown that the events of marriage and childbirth lead to elevated residential mobility (Kulu, 2008; Kulu and Steele, 2013; Michielin and Mulder, 2008; Mulder and Wagner, 1993). Until recently, little attention was paid to the link between union dissolution, residential mobility, and housing. Recent studies have shown that separation is also associated with increased levels of residential mobility (Feijten and van Ham, 2007, 2010; Mikolai and Kulu, 2018a, 2018b).

This chapter first summarises the state of the art on the interrelationship between partner relationships, residential mobility, and housing transitions. We summarise the literature on how partnership formation, childbirth, and union dissolution are associated with individuals' propensity to move and the type of housing they tend to move to in response to or in anticipation of these events. Then, we demonstrate the link between partnership transitions, residential mobility, and homeownership using data from the British Household Panel Survey. Finally, we discuss the opportunities and challenges studying the interplay between family changes and housing transitions offers for social science research.

### 15.2 PARTNERSHIP FORMATION, RESIDENTIAL MOBILITY, AND HOUSING

Partnership formation and residential mobility are closely related, as also highlighted in Chapter 11 in this volume. To establish a co-residential relationship, at least one of the partners needs to move. Either one of the partners moves in with the other partner or both partners have to move to a new, joint home (Brandén and Haandrikman, 2019; Flowerdew and Al-Hamad, 2004). Additionally, union formation leads to an increase in household size, implying a need for more space. Consequently, union formation is likely to lead to a residential move.

Co-residential partners benefit from a larger household income (assuming that both partners work) and from economies of scale (Feijten and Mulder, 2005). Union formation leads to pooled resources and an increase in the level of housing consumption (Helderman, 2007). Therefore, following union formation, individuals are likely to move to larger and/or better quality dwellings, such as single-family homes and detached or semi-detached houses (Clark and Davies Withers, 2009; Clark and Huang, 2003; Clark et al., 1994; Deurloo et al., 1994;



Feijten and Mulder, 2002; Helderma et al., 2004; Kulu, 2008; Michielin and Mulder, 2008; Mulder and Lauster, 2010; Mulder and Wagner, 1998; Rabe and Taylor, 2010). Additionally, union formation, especially marriage, is associated with a move from rental accommodation to homeownership (Clark et al., 1994; Davies Withers, 1998; Deurloo et al., 1994; Feijten et al., 2003; Helderma, 2007; Mulder and Manting, 1994).

Although most existing studies have examined how union formation influences the propensity of a residential move and the destination of these moves, it is possible that moving may also influence single individuals' chances of finding a partner or of partnered individuals meeting new potential partners (Wagner and Mulder, 2015a). Only a few studies have empirically studied this relationship. For example, Jang et al. (2014) analysed the risk of marriage following migration in the United States but did not detect an effect of migration on marriage propensities.

The interrelationship between union formation and residential mobility is complex (Wagner and Mulder, 2015a). Many studies have emphasised the importance of distinguishing between so-called 'event moves' and 'state moves', for example, moves related to the event of getting married (that is, 'event moves') and the status of being married (that is, 'state moves'). Previous studies have shown that the event of getting married leads to increased residential mobility whereas the state of being married is associated with reduced mobility (Jang et al., 2014; Michielin and Mulder, 2008; Mulder and Wagner, 1993; Odland and Shumway, 1993; Warner and Sharp, 2016).

This relationship is further complicated by two factors. First, residential mobility may occur in anticipation of family life events, for example, shortly before a wedding (Michielin and Mulder, 2008). Similarly, housing changes may occur in anticipation of key family life events. For example, couples who plan to get married may become homeowners before marriage. Homeownership may increasingly be a prerequisite for marriage as it is a major form of savings and often the couple's largest asset (Mulder, 2006a). At the same time, this investment leads to financial interdependence of the partners, which in turn might lead to stronger commitment and other relationship-specific investments such as marriage (Holland, 2012). Second, most previous studies have focused on marriage and its relationship to residential mobility and housing changes. However, with the increase in cohabitation as a first type of co-residential union (Ermisch and Francesconi, 2000) it is likely that residential mobility is increasingly linked to the formation of cohabitation and not to marriage (Flowerdew and Al-Hamad, 2004). An exception is a study by Smits and Mulder (2008) which showed that both the event of cohabitation and marriage increase individuals' propensity to become first-time homeowners in the Netherlands. Using Swedish register data, Brandén and Haandrikman (2019) found that at the start of co-residence, women are more likely to move than men. Only a few studies have looked at the risk of moving to different housing tenure types among cohabiting individuals. For example, in West Germany and the Netherlands, cohabiting couples were as likely to move to homeownership as married couples without children (Mulder and Wagner, 1998). Additionally, a recent study has shown that in England and Wales cohabiting men and women are less likely to move to homeownership than their married counterparts and that they primarily move to privately rented dwellings (Mikolai and Kulu, 2018b).

The transition from cohabitation to marriage may lead to additional moves. Although this transition does not necessarily imply a change in housing needs, it is likely to lead to a move to more appropriate housing such as homeownership or a single-family home (Feijten and Mulder, 2002; Michielin and Mulder, 2008) because marriage signals a serious commitment

and it may also be linked to the intention to have children (Manting, 1994). It has been argued in the literature that cohabiting couples who plan to buy a house are likely to marry first because being married creates financial benefits and may lead to easier access to a mortgage (Angelini et al., 2013; Feijten and Mulder, 2005). Indeed, it has been shown that across Europe and the United States, transition to homeownership is the most common among married couples (Holland, 2012; Lauster and Fransson, 2006; Mulder and Wagner, 1998). Holland (2012) studied the risk of joint homeownership and marriage in Sweden and found that the risk of marriage is higher in periods close to a joint home purchase and vice versa.

### 15.3 CHILDBIRTH, RESIDENTIAL MOBILITY, AND HOUSING

Another family event, which individuals may experience, is the birth of first and/or subsequent children. In general, an increase in household size leads to lower migration rates (Sandefur and Scott, 1981; White et al., 1995) not only because a move is more costly for larger families but also because the presence of children strengthens location-specific ties, which parents may be reluctant to cut. At the same time, the arrival of a first child or subsequent children leads to an increased need for space, and a desire for an appropriate dwelling in a family-friendly environment (Kulu and Vikat, 2007; Michielin and Mulder, 2008; Mulder, 2006b; Mulder and Wagner, 1998; Ström, 2010). This suggests that the arrival of a child is likely to lead to a move to family-friendly neighbourhoods, areas close to green spaces, larger dwellings, and/or homeownership. Thus, the anticipation of the arrival of a child and/or childbirth is likely to lead to residential moves.

Indeed, previous research has shown that the birth of a child leads to increasing residential mobility (Clark et al., 1984; Courgeau, 1985) largely because couples wish to adjust their dwelling size to their increased family size. Childbearing increases the propensity of moving to homeownership (Davies Withers, 1998; Deurloo et al., 1994; Enström Öst, 2012; Mulder and Wagner, 1998), to single-family homes (Feijten and Mulder, 2002; Kulu and Vikat, 2007), and to rural areas (Courgeau, 1989; Lindgren, 2003).

Evidence shows that many people move in anticipation of childbearing (Clark and Davies Withers, 2009). For example, Kulu (2008) studied the risk of a move to different area types using data from Austria and showed that a first conception leads to an increased risk of moving to rural and small-urban areas and of moving within the same settlement. Second and third births lead to a reduced propensity of moving, especially to urban areas unless these couples live in large cities, in which case they have an increased propensity to move to rural areas. Additionally, in a study using Finnish register data Kulu and Steele (2013) found that many housing-related moves took place during pregnancy and many conceptions occurred shortly after moving to a new house. Vidal et al. (2017) explicitly investigated the role of fertility intentions on residential mobility and showed that young, childless couples were less likely to relocate if they intended to have a child whereas older couples who already had children had higher mobility rates if they intended to have another child. These findings support the idea of adjustment moves: couples move either in anticipation of childbearing or in response to it.

Some studies have also looked at the other side of the residential mobility–fertility nexus and analysed the effect of housing-related moves on fertility. For example, Mulder and Wagner (2001) found increased first birth risks during the first year following a move to homeownership in West Germany and the Netherlands. Similarly, Michielin and Mulder

(2008) found elevated levels of fertility for Dutch couples following short-distance moves. Additionally, Kulu and Vikat (2007) showed that couples who had moved together (especially to detached houses) had increased birth rates in Finland. Most previous studies explained the increased birth risks by selective moves suggesting that couples move to adjust their housing conditions in anticipation of childbearing. Ermisch and Steele (2016) explicitly studied the role of fertility expectations in couples' residential mobility and found empirical support for this argument. However, it is also possible that couples postpone childbearing until they manage to move to their ideal home (Mulder, 2006b). In line with this argument, Ström (2010) showed for Sweden that dwelling size is the most important factor for increased first birth rates; more important than dwelling type or housing tenure.

#### 15.4 PARTNERSHIP DISSOLUTION, RESIDENTIAL MOBILITY, AND HOUSING

Separation and divorce are also associated with residential mobility and housing changes. Union dissolution is a negative life event, which has adverse consequences for individuals' different life domains such as finances, emotional and physical well-being, and housing (Amato, 2000, 2010; Poortman, 2000). Despite increasing union instability and divorce rates, only a handful of studies have focused on the link between union dissolution, residential mobility, and housing.

This research can be divided into two streams. The first group of studies have focused on the impact of moving on the likelihood of union dissolution. There are several reasons why moving is expected to influence the risk of union dissolution (Boyle et al., 2008). First, moving is a stressful event, which is likely to increase the probability of separation. Second, previous studies have shown that long-distance moves often benefit one partner (usually the man) more than the other. This inequality in the relationship may also increase the risk of separation. Last, women who move long distances with their partner are less likely to be employed, have lower earnings, and work fewer hours than their counterparts who do not move with their partner. Only a few previous studies examined how moving influences the propensity to separate. For example, Boyle et al. (2008) studied how residential moves and migrations influence the risk of union dissolution among married and cohabiting people in Austria and showed that couples who move twice or more (both short- or long-distance moves) have a higher risk of union dissolution than those who do not move. Muszynska and Kulu (2007) found similar results for Russia: couples who moved over long distances at least twice had higher union dissolution risks than those who did not move or only moved once.

The second group of studies has focused on the effect of union dissolution on residential mobility. Union dissolution is associated with a decrease in household income and a loss of economies of scale (Feijten and van Ham, 2007, 2010). Additionally, union dissolution implies that at least one of the ex-partners has to move out of the joint home, although often both move (Feijten and van Ham, 2007, 2010; Mulder and Wagner, 2010; Speare and Goldscheider, 1987). Therefore, union dissolution is likely to have a negative impact on separated individuals' housing careers (Feijten and Mulder, 2010). Indeed, previous studies have shown that separation leads to increased levels of residential mobility and that separated individuals have higher moving risks than those who are single or are in a relationship (Feijten and van Ham, 2007, 2010; Mikolai and Kulu, 2018a, 2018b). Additionally, separated individuals'

housing situation might be temporary shortly after separation; it may take several adjustment moves for separated individuals to find an appropriate dwelling (Dieleman and Schouw, 1989; Feijten and van Ham, 2007; Warner and Sharp, 2016). Furthermore, the ex-partner who stayed in the joint home following separation might have to move out later if he or she is not able to maintain the home (Feijten and Mulder, 2010). Although mobility levels decrease as time since separation increases (Feijten and van Ham, 2010), the levels of residential mobility among separated individuals remain elevated even three years following separation (Mikolai and Kulu, 2018b).

Studies have investigated separated individuals' risks to move out of homeownership. They found that divorced and separated individuals are more likely to move out of homeownership than those who are married or cohabiting (Dewilde, 2008; Ermisch and Di Salvo, 1996; Feijten, 2005; Feijten and Mulder, 2010; Feijten and van Ham, 2010; Helderma, 2007; Lersch and Vidal, 2014). Additionally, it has been shown that divorced and separated individuals are less likely to enter homeownership compared to their married or cohabiting counterparts (Feijten and van Ham, 2010; Lersch and Vidal, 2014; Thomas and Mulder, 2016). A recent study by Mikolai and Kulu (2018b) also included separated individuals who lived in rental dwellings at the time of separation and found that separated men and women were most likely to move to privately rented dwellings in England and Wales. Additionally, separated women were the second most likely to move to social renting whereas separated men were also likely to move to homeownership.

In the next section, we first show mobility patterns by partnership status using data from England and Wales, focusing on the residential mobility and housing experiences of separated women and men. Then, we extend previous research by distinguishing between moves due to separation and moves of separated people to understand whether separation has a long-lasting influence on individuals' residential mobility. Last, we investigate the probability of being a homeowner by partnership status, which is an important indicator of individuals' socio-economic well-being (Dewilde, 2008).

## 15.5 RESIDENTIAL MOBILITY AND HOUSING FOLLOWING UNION DISSOLUTION IN ENGLAND AND WALES

We use data from the British Household Panel Survey (BHPS) for England and Wales (Institute for Social and Economic Research, 2010; Taylor et al., 2010) to investigate the residential mobility levels and housing situation of single, cohabiting, married, and separated men and women. The BHPS is a longitudinal household panel study, which has surveyed a nationally representative sample of 5,000 households (approximately 10,000 individuals) between 1991 and 2008. If the composition of surveyed households changed, the survey followed the original household members and interviewed new household members. In this chapter, we use information on original sample members and two additional subsamples (European Community Household Panel and Wales Extension Sample) for England and Wales.

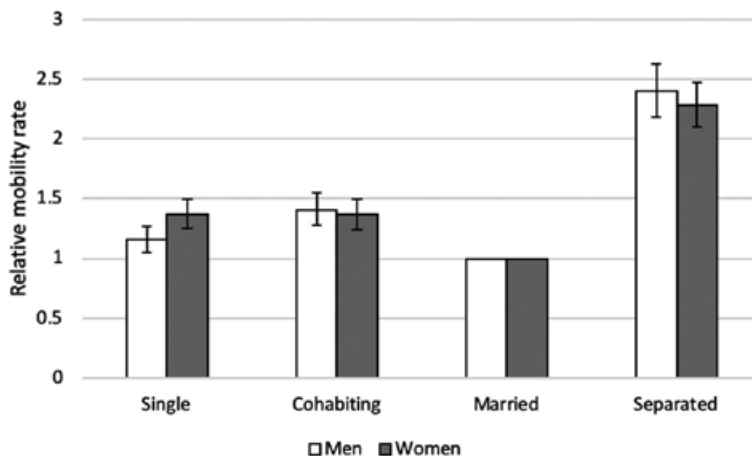
At each interview, respondents were asked whether their place of residence has changed since the last interview and if so, the year and month of this residential change was recorded. Additionally, at each interview wave, the housing tenure (homeownership or renting) of respondents' dwelling was recorded. Individuals' partnership status (single, cohabiting, married, or separated) was calculated using retrospective and prospective data on the year and

month of the start and end of up to ten cohabitations and marriages from the Consolidated Marital, Cohabitation, and Fertility Histories dataset (Pronzato, 2011). Using this information, we constructed a time-varying partnership status variable. Separated individuals who form a new co-residential relationship are included in the separated category until they start a new relationship, after this they are coded as cohabiting or married depending on the type of their new relationship.

Using this information, we first study residential mobility levels by partnership status (that is, single, cohabiting, married, and separated) and sex using event history analysis. In these analyses, individuals are observed from age 16, or age at entry into the study until age 50, widowhood, or the end of observation, whichever comes first. The study sample consists of 4,671 men and 4,912 women who experienced 4,675 and 5,176 moves, respectively.

Figure 15.1 shows the mobility rates of single, cohabiting, and separated men and women relative to the mobility rates of married men and women, respectively. The analysis is adjusted for individuals' age. Married individuals have the lowest mobility rates. Single and cohabiting people are significantly more likely to experience a move than their married counterparts. On average, single men and women are 15 to 40 per cent more likely to experience a move whereas cohabiting men and women are about 40 per cent more likely to move than married men and women. Separated individuals have considerably higher mobility rates than those who are single and who are in a co-residential relationship; they are almost 2.5 times as likely to move as those who are married.

It is not surprising that separated men and women are more likely to move than those who are in a relationship because by definition separation implies that at least one of the two ex-partners will have to move out of the joint home. To understand whether and how separation influences individuals' residential mobility levels in the longer term, we need to differen-



*Note:* Whiskers indicate 95 per cent confidence intervals. Mobility rates of single, cohabiting, and separated men and women are compared to those of married men and women, respectively. Calculations are only adjusted for age. *Source:* Authors' own calculations using data from the British Household Panel Survey, 1991–2008.

*Figure 15.1* Age-adjusted mobility rate by partnership status and sex in England and Wales

iate moves which occur due to the event of separation and those which occur later. Therefore, in the next step, we distinguish separated individuals by time since separation. Moves which occur during the first four months following separation are moves due to separation and moves which occur later (5–11 months, 12–35 months, and 36 or more months following separation) are moves of separated individuals. Figure 15.2 shows mobility rates of single, cohabiting, and married men and women (as in Figure 15.1) but this time, we have disaggregated the group of separated men and women by time since separation. Again, mobility rates of separated men and women are compared to those of their married counterparts and the analysis is adjusted for individuals' age. Mobility rates of separated men and women are the highest immediately following separation (zero–four months); on average, separated individuals are more than six times as likely to move as married individuals. As time since separation increases, mobility rates decrease but even three or more years after separation, separated men and women are significantly more likely (approximately 1.6 times) to move than married and single individuals. Mobility levels and patterns are very similar among separated men and women.

Last, we study the probability of being a homeowner by partnership status among men and women (Figure 15.3) controlling for age and calendar period using panel regression. For this analysis, the sample consists of 5,331 men and 5,147 women. The outcome variable is binary, indicating whether individuals lived in an owner-occupied dwelling (1) or not (0) in a given survey year. Married men and women have the highest probability of being a homeowner whilst cohabiting individuals are the second most likely to do so. Separated men and women are considerably less likely to be homeowners compared to those who are in a relationship – although they are more often homeowners than single people. This is probably because

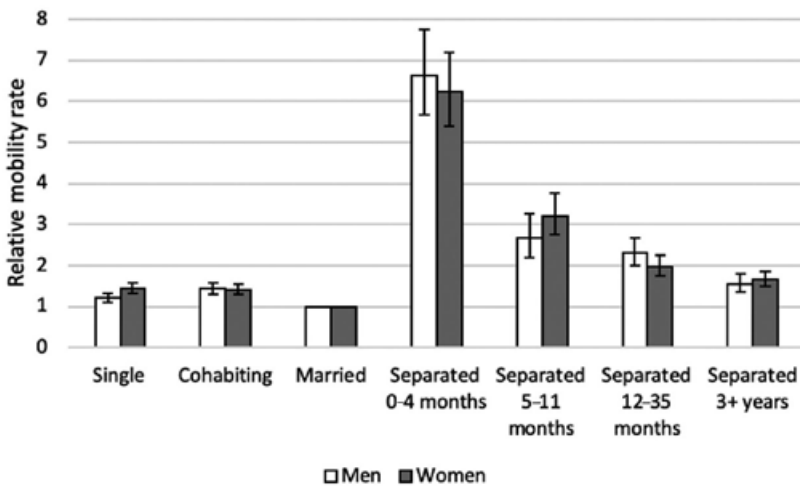
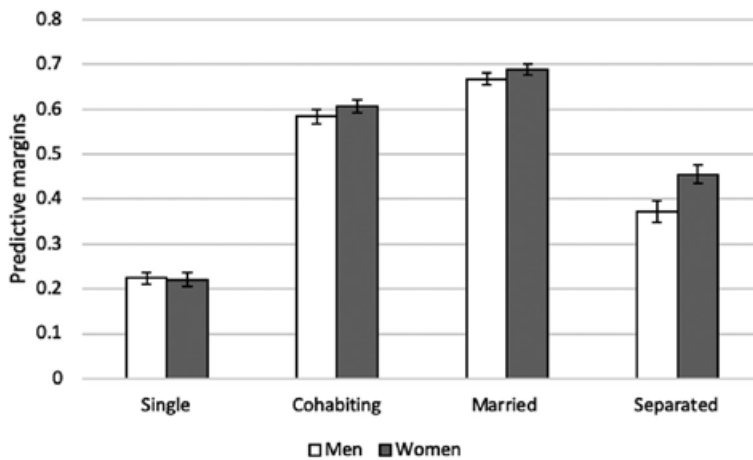


Figure 15.2 Age-adjusted mobility rate by partnership status, and for the separated time since separation, and sex in England and Wales

Note: Whiskers indicate 95 per cent confidence intervals. Mobility rates of single, cohabiting, and separated men and women are compared to those of married men and women, respectively. Calculations are only adjusted for age. Source: Authors' own calculations using data from the British Household Panel Survey, 1991–2008.



Note: Whiskers indicate 95 per cent confidence intervals.

Source: Authors' own calculations using data from the British Household Panel Survey, 1991–2008.

Figure 15.3 *Predictive margins of homeownership by partnership status and sex in England and Wales*

following separation one of the ex-partners is likely to remain in the pre-separation home if either one or both of the partners were homeowners prior to separation.

## 15.6 CONCLUSION AND DISCUSSION

Different life domains of individuals, such as the partnership and family domain and the residential and housing domain are closely related. Research over the past decades has investigated this interrelationship using the lifecourse theory as a framework and utilising longitudinal data and analysis techniques. As a result, we have a better understanding of the link between individuals' family lives and residential and housing experiences. Several opportunities and challenges remain for future research.

The first challenge is related to studying the interrelated life domains of linked individuals. For example, residential and housing decisions of cohabiting and married couples are likely to be made jointly by the couple rather than separately by individuals in the couple. Although data are often available for both partners, most previous studies have analysed men and women separately. This is largely because of the complexities associated with couple-level longitudinal analysis. Studies which focus on couples as the unit of analysis typically investigate only one life domain. For example, Thomas et al. (2017, 2018) studied ex-partners' linked lives by analysing ex-partners' post-separation residential experiences using multi-level analysis. Theunis et al. (2018) used dyadic models to study the effect of partners' absolute and relative education on who moves out of the joint home following separation in Belgium. Others have used the couples' and/or partners' characteristics or measures of their characteristics relative to each other as a covariate in individual-level models to study the link between partners'

experiences (for example, Brandén and Haandrikman, 2019; Michielin and Mulder, 2008; Mulder and Malmberg, 2011; Mulder and Wagner, 2010; Mulder et al., 2012). Although this approach provides some information on the role of partners' characteristics in individuals' lives, it is not well suited to explicitly studying partners' linked lives. Studies which have analysed the interrelationship between several life domains have focused on individuals rather than couples using multi-process event history models (for example, Lersch and Vidal, 2014; Mikolai and Kulu, 2018a, 2018b). To summarise, future research should explicitly study the interplay between linked individuals' interrelated lifecourses and the mechanisms behind the decisions they make.

Another challenge related to couple-level analysis is that individuals can belong to several couples over their lifecourse. In general, this issue could be tackled using cross-classified multi-level models. However, how this approach could be incorporated to studying the interrelationship between couples' several life domains (for example, using complex multi-process models) is not straightforward. Even if this issue was solved, we may face challenges related to data availability. Household panel studies usually collect information on new partners after they enter the household of an original study member, but they do not ask for information on their residential or family life experiences prior to entry into the panel study. To fully understand couples' interrelated lives, data collection should also include prior histories of new partners who are not original sample members in household surveys.

The second challenge is related to understanding and identifying the role of selection and causality in the interrelationship between individuals' life domains. This issue is further complicated by the synchronicity of lifecourse events; many transitions occur at or around the same time and it is not straightforward to ascertain which event is the trigger and which one occurs as a consequence of previous events. Many previous studies addressed this issue by analysing residential changes or the transition to homeownership before and after marriage (Holland, 2012; Mulder and Wagner, 1993, 1998). In doing so, the authors selected married individuals to understand how the propensity to become a homeowner changes before and after marriage. However, this analytical strategy may produce biased estimates because the processes of marriage and residential mobility are interrelated rather than one process being the cause of the other process (Hoem, 2014; Hoem and Kreyenfeld, 2006). A better analytical approach is to model interrelated processes jointly. For example, simultaneous event history analysis has been used to understand the link between the transition to first and higher order conceptions and births and residential mobility (Kulu, 2008; Kulu and Steele, 2013), marriage and migration (Jang et al., 2014), and union dissolution and residential mobility (Mikolai and Kulu, 2018a, 2018b). Although these studies have resulted in a more thorough and nuanced understanding of the link between individuals' life domains, previous studies have not analysed the interdependence between more than two life domains. This opportunity remains open for future research.

Third, although the link between partnership formation and dissolution and residential mobility has been extensively examined, previous studies did not incorporate non-residential relationships into this picture. However, such relationships may be increasingly important in young adults' lives who increasingly postpone the transition to adulthood, which may lead to extended periods of non-residential relationship(s). Mulder (2013) pointed out that in demographic studies often co-residence is taken as the start of a relationship but this assumption is not accurate. Since then, studies have looked at so-called living-apart-together (LAT) relationships and the determinants of whether couples in LAT relationships will establish co-residence



or break up using German data (Krapf, 2018; Schnor, 2015; Wagner and Mulder, 2015b) as well as the dimensions of commitment in LAT relationships in the Netherlands (van der Wiel et al., 2018). However, these studies did not look at the interrelationship between transitions in and out of LAT relationship and residential mobility or housing changes. Additionally, data on non-residential relationships are not routinely collected in longitudinal and household panel studies. Ideally, data should be collected on the start and end dates of several non-residential relationships as routinely done for co-residential relationships.

Last, most studies on the link between residential mobility, housing changes, and family change come from Britain, Germany, and the Netherlands. These studies typically focus on a single country, pairs of countries, or a subset of countries. Future research should examine a wider range of countries using longitudinal data and methods to understand how different national contexts, policies, and the characteristics of the housing markets influence the link between individuals' residential and family life experiences.

## REFERENCES

- Amato, P. (2000). The consequences of divorce for adults and children. *Journal of Marriage and the Family*, **62**(4), 1269–87.
- Amato, P. (2010). Research on divorce: Continuing trends and new developments. *Journal of Marriage and Family*, **72**(3), 650–66.
- Angelini, V., Laferrère, A., and Weber, G. (2013). Home-ownership in Europe: How did it happen? *Advances in Life Course Research*, **18**(1), 83–90. doi:<http://dx.doi.org/10.1016/j.alcr.2012.10.006>
- Boyle, P.J., Kulu, H., Cooke, T.J., Gayle, V., and Mulder, C.H. (2008). Moving and union dissolution. *Demography*, **45**(1), 209–22.
- Brandén, M., and Haandrikman, K. (2019). Who moves to whom? Gender differences in the distance moved to a shared residence. *European Journal of Population*, **35**(3), 435–58.
- Clark, W.A.V. and Davies Withers, S. (2009). Fertility, mobility and labour-force participation: A study of synchronicity. *Population, Space and Place*, **15**(4), 305–21.
- Clark, W.A.V. and Huang, Y. (2003). The life course and residential mobility in British housing markets. *Environment and Planning A*, **35**(2), 323–39.
- Clark, W.A.V., Deurloo, M.C., and Dieleman, F.M. (1984). Housing consumption and residential mobility. *Annals of the Association of American Geographers*, **74**(1), 29–43.
- Clark, W.A.V., Deurloo, M.C., and Dieleman, F.M. (1994). Tenure changes in the context of micro-level family and macro-level economic shifts. *Urban Studies*, **31**(1), 137–54.
- Cooke, T.J. (2008). Migration in a family way. *Population, Space and Place*, **14**(4), 255–65.
- Courgeau, D. (1985). Interaction between spatial mobility, family career and life-cycle: A French survey. *European Sociological Review*, **1**(2), 139–62.
- Courgeau, D. (1989). Family formation and urbanization. *Population: An English Selection*, **44**(1), 123–46.
- Davies Withers, S. (1998). Linking household transitions and housing transitions: A longitudinal analysis of renters. *Environment and Planning A*, **30**(4), 615–30.
- Deurloo, M.C., Clark, W.A.V., and Dieleman, F.M. (1994). The move to housing ownership in temporal and regional contexts. *Environment and Planning A*, **26**(11), 1659–70.
- Dewilde, C. (2008). Divorce and the housing movements of owner-occupiers: A European comparison. *Housing Studies*, **23**(6), 809–32.
- Dieleman, F.M., and Schouw, R.J. (1989). Divorce, mobility, and housing demand. *European Journal of Population*, **5**(3), 235–52.
- Enström Öst, C. (2012). Housing and children: Simultaneous decisions? A cohort study of young adults' housing and family formation decision. *Journal of Population Economics*, **25**(1), 349–66. doi:[10.1007/s00148-010-0345-5](https://doi.org/10.1007/s00148-010-0345-5)

- Ermisch, J. and Di Salvo, P. (1996). Surprises and housing tenure decisions in Great Britain. *Journal of Housing Economics*, **5**(3), 247–73.
- Ermisch, J. and Francesconi, M. (2000). Cohabitation in Great Britain: Not for long, but here to stay. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, **163**(2), 153–71.
- Ermisch, J. and Steele, F. (2016). Fertility expectations and residential mobility in Britain. *Demographic Research*, **35**, 1561–84.
- Feijten, P. (2005). Union dissolution, unemployment and moving out of homeownership. *European Sociological Review*, **21**(1), 59–71.
- Feijten, P. and Mulder, C.H. (2002). The timing of household events and housing events in the Netherlands: A longitudinal perspective. *Housing Studies*, **17**(5), 773–92.
- Feijten, P. and Mulder, C.H. (2005). Life-course experience and housing quality. *Housing Studies*, **20**(4), 571–87. doi:10.1080/02673030500114474
- Feijten, P. and Mulder, C.H. (2010). Gender, divorce and housing – a life course perspective. In D. Reuschke (ed.), *Wohnen und gender. Theoretische, politische, soziale und räumliche Aspekte (Living and Gender. Theoretical, Political, Social and Spatial Aspects)* (pp. 175–93). Wiesbaden: VS Verlag für Sozialwissenschaften.
- Feijten, P. and van Ham, M. (2007). Residential mobility and migration of the divorced and separated. *Demographic Research*, **17**, 623–54.
- Feijten, P. and van Ham, M. (2010). The impact of splitting up and divorce on housing careers in the UK. *Housing Studies*, **25**(4), 483–507.
- Feijten, P., Mulder, C.H., and Baizan, P. (2003). Age differentiation in the effect of household situation on first-time homeownership. *Journal of Housing and the Built Environment*, **18**(3), 233–55.
- Flowerdew, R. and Al-Hamad, A. (2004). The relationship between marriage, divorce and migration in a British dataset. *Journal of Ethnic and Migration Studies*, **30**, 339–51.
- Helderman, A.C. (2007). Once a homeowner, always a homeowner? An analysis of moves out of owner-occupation. *Journal of Housing and the Built Environment*, **22**(3), 239–61. doi:10.1007/s10901-007-9085-6
- Helderman, A.C., Mulder, C.H., and van Ham, M. (2004). The changing effect of home ownership on residential mobility in the Netherlands, 1980–98. *Housing Studies*, **19**(4), 601–616. doi:10.1080/0267303042000221981
- Hoem, J.M. (2014). The dangers of conditioning on the time of occurrence of one demographic process in the analysis of another. *Population Studies*, **68**(2), 151–9.
- Hoem, J.M. and Kreyenfeld, M. (2006). Anticipatory analysis and its alternatives in life-course research. Part 2: Two interacting processes. *Demographic Research*, **15**, 485–98.
- Holland, J.A. (2012). Home and where the heart is: Marriage timing and joint home purchase. *European Journal of Population*, **28**(1), 65–89.
- Institute for Social and Economic Research (2010). *British Household Panel Survey: Waves 1–18, 1991–2009 (data collection). 7th Edition*. UK Data Service. SN: 5151. Colchester: University of Essex.
- Jang, B.J., Casterline, J.B., and Snyder, A.R. (2014). Migration and marriage: Modeling the joint process. *Demographic Research*, **30**, 1339–66.
- Krapf, S. (2018). Moving in or breaking up? The role of distance in the development of romantic relationships. *European Journal of Population*, **34**, 313–36.
- Kulu, H. (2008). Fertility and spatial mobility in the life course: Evidence from Austria. *Environment and Planning A*, **40**(3), 632–52.
- Kulu, H. and Steele, F. (2013). Interrelationships between childbearing and housing transitions in the family life course. *Demography*, **50**(5), 1687–714.
- Kulu, H. and Vikat, A. (2007). Fertility differences by housing type: The effect of housing conditions or selective moves? *Demographic Research*, **17**, 775–802.
- Lauster, N.T. and Fransson, U. (2006). Of marriages and mortgages: The second demographic transition and the relationship between marriage and homeownership in Sweden. *Housing Studies*, **21**(6), 902–27.
- Lersch, P.M. and Vidal, S. (2014). Falling out of love and down the housing ladder: A longitudinal analysis of marital separation and home ownership. *European Sociological Review*, **30**(4), 512–24.

- Lindgren, U. (2003). Who is the counter-urban mover? Evidence from the Swedish urban system. *International Journal of Population Geography*, **9**(5), 399–418.
- Manting, D. (1994). *Dynamics in Marriage and Cohabitation: An Inter-temporal, Life Course Analysis of First Union Formation and Dissolution*. Amsterdam: Thesis Publishers.
- Michielin, F. and Mulder, C.H. (2008). Family events and the residential mobility of couples. *Environment and Planning A*, **40**(11), 2770–90. doi:10.1068/a39374
- Mikolai, J. and Kulu, H. (2018a). Divorce, separation and housing changes: A multiprocess analysis of longitudinal data from England and Wales. *Demography*, **55**(1), 83–106.
- Mikolai, J. and Kulu, H. (2018b). Short- and long-term effects of divorce and separation on housing tenure in England and Wales. *Population Studies*, **72**(1), 17–39. doi:10.1080/00324728.2017.1391955
- Mulder, C.H. (2006a). Home-ownership and family formation. *Journal of Housing and the Built Environment*, **21**(3), 281–98. doi:10.1007/s10901-006-9050-9
- Mulder, C.H. (2006b). Population and housing: A two-sided relationship. *Demographic Research*, **15**, 401–12.
- Mulder, C.H. (2013). Family dynamics and housing: Conceptual issues and empirical findings. *Demographic Research*, **29**, 355–78.
- Mulder, C.H. and Lauster, N.T. (2010). Housing and family: An Introduction. *Housing Studies*, **25**(4), 433–40.
- Mulder, C.H. and Malmberg, G. (2011). Moving related to separation: Who moves and to what distance. *Environment and Planning A*, **43**(11), 2589–607.
- Mulder, C.H. and Manting, D. (1994). Strategies of nest-leavers: “Settling down” versus flexibility. *European Sociological Review*, **10**(2), 155–72.
- Mulder, C.H. and Wagner, M. (1993). Migration and marriage in the life course: A method for studying synchronized events. *European Journal of Population*, **9**(1), 55–76.
- Mulder, C.H. and Wagner, M. (1998). First-time home-ownership in the family life course: A West-German-Dutch comparison. *Urban Studies*, **35**(4), 687–713.
- Mulder, C.H. and Wagner, M. (2001). The connections between family formation and first-time home ownership in the context of West Germany and the Netherlands. *European Journal of Population*, **17**(2), 137–64.
- Mulder, C.H. and Wagner, M. (2010). Union dissolution and mobility: Who moves from the family home after separation? *Journal of Marriage and Family*, **72**(5), 1263–73.
- Mulder, C.H., ten Hengel, B., Latten, J., and Das, M. (2012). Relative resources and moving from the joint home around divorce. *Journal of Housing and the Built Environment*, **27**(2), 153–68. doi:10.1007/s10901-011-9250-9
- Muszynska, M. and Kulu, H. (2007). Migration and union dissolution in a changing socio-economic context: The case of Russia. *Demographic Research*, **17**, 803–20.
- Odlan, J. and Shumway, J.M. (1993). Interdependencies in the timing of migration and mobility events. *Papers in Regional Science*, **72**(3), 221–37.
- Poortman, A. (2000). Sex differences in the economic consequences of separation: A panel study of the Netherlands. *European Sociological Review*, **16**(4), 367–83. doi:10.1093/esr/16.4.367
- Pronzato, D.C. (2011). *British Household Panel Survey Consolidated Marital, Cohabitation and Fertility Histories, 1991–2009 (data collection)*. Third Edition. UK Data Service. SN: 5629. Colchester: University of Essex.
- Rabe, B. and Taylor, M. (2010). Residential mobility, quality of neighbourhood and life course events. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, **173**(3), 531–55. doi:10.1111/j.1467-985X.2009.00626.x
- Sandefur, G.D. and Scott, W.J. (1981). A dynamic analysis of migration: An assessment of the effects of age, family and career variables. *Demography*, **18**(3), 355–68.
- Schnor, C. (2015). Does waiting pay off for couples? Partnership duration prior to household formation and union stability. *Demographic Research*, **33**, 611–52.
- Smits, A. and Mulder, C.H. (2008). Family dynamics and first-time homeownership. *Housing Studies*, **23**(6), 917–33.
- Spere, A.J. and Goldscheider, F.K. (1987). Effects of marital status change on residential mobility. *Journal of Marriage and the Family*, **49**(2), 455–64.
- Ström, S. (2010). Housing and first births in Sweden, 1972–2005. *Housing Studies*, **25**(4), 509–26.

- Taylor, M.F., Brice, J., Buck, N., and Prentice-Lane, E. (2010). *British Household Panel Survey User Manual Volume A: Introduction, Technical Report and Appendices*. Colchester: University of Essex.
- Theunis, L., Eeckhaut, M.C.W., and van Bavel, J. (2018). Who leaves the joint home after separation? The role of partners' absolute and relative education in Belgium. *European Sociological Review*, **34**(6), 659–74.
- Thomas, M.J. and Mulder, C.H. (2016). Partnership patterns and homeownership: A cross-country comparison of Germany, the Netherlands, and the United Kingdom. *Housing Studies*, **31**(8), 935–63.
- Thomas, M.J., Mulder, C.H., and Cooke, T.J. (2017). Linked lives and constrained spatial mobility: The case of moves related to separation among families with children. *Transactions of the Institute of British Geographers*, **42**(4), 597–611.
- Thomas, M.J., Mulder, C.H., and Cooke, T. (2018). Geographical distances between separated parents: A longitudinal analysis. *European Journal of Population*, **34**(4), 463–89.
- van der Wiel, R., Mulder, C.H., and Bailey, A. (2018). Pathways to commitment in living-apart-together relationships in the Netherlands: A study on satisfaction, alternatives, investments and social support. *Advances in Life Course Research*, **36**, 13–22.
- Vidal, S., Huinink, J., and Feldhaus, M. (2017). Fertility intentions and residential relocations. *Demography*, **54**(4), 1305–30.
- Wagner, M. and Mulder, C.H. (2015a). Spatial mobility, family dynamics, and housing transitions. *Kölner Zeitschrift für Soziologie und Sozialpsychologie*, **67**, 111–35.
- Wagner, M. and Mulder, C.H. (2015b). Understanding the transition from living apart together to a cohabitation – who moves to establish a co-residential partnership? Paper presented at the Annual Meeting of the Population Association of America, San Diego.
- Warner, C. and Sharp, G. (2016). The short- and long-term effects of life events on residential mobility. *Advances in Life Course Research*, **27**, 1–15. doi:<http://dx.doi.org/10.1016/j.alcr.2015.09.002>
- White, M.L., Moreno, L., and Guo, S. (1995). The interrelation of fertility and geographic mobility in Peru: A hazards model analysis. *International Migration Review*, **29**(2), 492–514.

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## 16. Migration, welfare and the lifecourse in the context of the European Union: a case study of the Netherlands

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### 16.1 INTRODUCTION

With central and eastern European countries joining the European Union (EU) in 2004 and 2007, it has become easier for people from these countries to move to north-western European member states with a more developed welfare system.<sup>1</sup> In light of this change, these EU enlargements have been met with increased political concerns about national welfare states (De Giorgi and Pellizzari, 2009; Kvist, 2004; Schmidt et al., 2018). Restricting the migration and welfare rights of European migrants has been one of the highest priorities surrounding the Brexit referendum (Blauberger and Schmidt, 2017; Kahanec and Pytlikova, 2017). Similar calls for policy change can be observed in other countries. For instance, in 2013, the interior ministers of Austria, Germany, the Netherlands and the UK wrote a joint letter to the European Commission asking for measures that would curb the ‘abuse’ of the right to free movement and reduce ‘excessive strain on the social systems in the receiving societies’.<sup>2</sup> Examples like these clearly illustrate a political tension between the right to freedom of movement of all EU citizens and generous welfare states. Furthermore, terms like ‘welfare abuse’ and ‘benefit tourism’ are regularly used in public and political discourses, and suggest that EU citizens move to other EU countries for the primary purpose of accessing benefits rather than working and contributing to the welfare system and society at large (Blauberger et al., 2018; Lafleur and Stanek, 2017).

Public and political concerns about national welfare systems in the context of free intra-EU mobility resonate with a broader scholarly claim that welfare systems are intrinsically based on a principle of closure (Ferrera, 2005; Freeman, 1986; Nannestad, 2007). If welfare is an important driver of migration, and its impact mainly regulated by border restrictions, one could expect increased welfare migration from the poorer member states in eastern Europe to the more developed welfare systems in western Europe after the EU enlargements (De Giorgi and Pellizzari, 2009; Kvist, 2004; Martinsen and Werner, 2019). Furthermore, even if migrants are primarily driven by a labour motive (*ex ante*), welfare arrangements may become important if they are exposed to events like unemployment (*ex post*) (Andersen and Migali, 2016). Thus, public finances may be affected by increased migration after the EU enlargements – regardless of the main driver of the migration decision.

The expectation that more inclusive and generous welfare systems are unsustainable in open economies of free movement seems largely based on the assumption that the welfare access of migrants is only regulated by national borders. However, in practice, welfare access of both migrants and natives is largely determined by national eligibility criteria tied to their lifecourse stage, labour market status and length of stay in the country. To understand the consequences

of EU migration for national welfare systems, we should therefore look at these eligibility criteria in combination with demographic characteristics of EU migrants. In this chapter, we aim to do so using comprehensive data from the Dutch population registers. As one of the countries where concerns about welfare tourism after the EU enlargements of 2004 and 2007 were raised, the Netherlands presents a relevant case study. We focus on EU migrants from Poland and Bulgaria to the Netherlands over the years after these countries joined the EU. Because Polish and Bulgarian migrants gained access to the Dutch labour market at different points in time, a focus on these countries enables us to investigate the impact of labour market restrictions on EU migrants' welfare access within a single destination country.

## 16.2 WELFARE AND FREE MOBILITY WITHIN THE EU

### 16.2.1 Equal Treatment

In contrast with what is often assumed, EU migrants are not granted access to the welfare system in the host country from the moment of arrival (Mantu and Minderhoud, 2016). According to the Free Movement Directive, EU migrants are not entitled to social assistance or unemployment benefits in the first three months after arrival. After this initial period, the equal treatment principle applies to EU migrants, including access to the welfare system. However, to legally reside in the host member state for more than three months, EU migrants must either work in the host member state or have sufficient resources for themselves and their family members not to become a burden on the welfare system. Claiming social assistance could be regarded as proof of lack of self-sufficiency, and as a result, may lead to losing the right to reside in the host member state, as well as the right to social benefits (Heindlmaier and Blauberger, 2017; Lafleur and Mescoli, 2018). Only after residing continuously in the host member state for five years do EU migrants obtain similar rights as nationals – including welfare rights – even if they have never worked.

### 16.2.2 National Eligibility Criteria

Under the equal treatment principle, EU migrants and natives are subjected to similar eligibility criteria for accessing welfare. Yet whereas EU regulations are largely harmonized across EU member states, considerable variation exists in the way national governments have organized welfare (De Beer et al., 2001). Thus, the welfare systems of the different countries determine what benefits are available, who is entitled to them and under what conditions (Bruzelius, 2019). In an effort to summarize the main differences between national welfare systems, Esping-Andersen (1990) distinguished between three ideal types of welfare regimes: the liberal, the corporatist and the social-democratic regime type. The *liberal* regime mainly provides means-tested social assistance, provided to those who are incapable of working or earn below the minimum income. The UK is typically mentioned as a European example of this type of welfare system. The *corporatist* regime links social insurance to individuals' employment history, wage and paid premiums. Continental European countries like France, Belgium and Germany approximate the corporatist welfare regime. In the *social-democratic* regime, relatively large shares of universal benefits are provided. The generous benefits are

paid for through high general taxation. The Scandinavian countries are best described by this type of welfare system.

The typology of Esping-Andersen illustrates that the different national welfare models have different underlying principles of redistribution. In the social policy literature, scholars have therefore used these broad institutional differences – particularly the share of non-contributory benefits – to explain why some member states feel more vulnerable to intra-EU migration than others (Beaudonnet, 2015; Martinsen, 2005; Roos, 2016; Ruhs, 2015). For instance, EU citizens would have relatively easy access to welfare in the UK compared to countries with a corporatist welfare regime, as the British liberal welfare regime has a relatively large non-contributory component (Ruhs and Palme, 2018). However, in practice, European welfare systems are far more complex than the ideal types distinguished by Esping-Andersen suggest (see also Chapter 19 in this volume). Whether a person can receive welfare benefits depends in the first place on the way categories of support are defined: one has to at least belong to the target group to become eligible (Clasen and Clegg, 2006). For example, to receive an old-age pension, one needs to be above the legal retirement age.

European welfare systems redistribute between income groups through social assistance, but also between individuals in different phases of life through social insurance and universal benefits. In fact, many welfare arrangements are targeted at people in specific phases of life. Gaining access to welfare arrangements in turn often marks a transition in the lifecourse, such as the passage from initial education to work, from work to unemployment, from being single to starting a family, from work to retirement, from being healthy to being (temporary) unable to work, and so on (De Graaf and Maier, 2017). Which type of welfare benefits a person can access is therefore closely connected to his or her stage in the lifecourse.

Beyond these criteria at the *categorical* level, eligibility and entitlement criteria at the *circumstantial* level determine whether a person has access to a benefit, as well as the amount received (Clasen and Clegg, 2006). The nature of these criteria varies with the type of social security arrangement: universal, insurance or assistance. Universal benefits are available to everyone within the category of support (which in many cases are related to the lifecourse stage), regardless of income or employment status. Because of this, universal benefits are typically understood to be the most generous type (Anttonen, 2002). Insurance benefits, on the other hand, depend on the individual's employment history and income, whereas social assistance can be seen as a safety net for only the very poor. These eligibility criteria typically vary more between types of benefit than between welfare regimes. For instance, corporatist welfare regimes also provide benefits unrelated to social insurance contributions, such as means-tested social assistance benefits or universal old-age pensions.

### **16.2.3 Position on the Labour Market**

Debates on migration and the welfare state are often divided between 'labour' and 'welfare' views (Josifidis et al., 2014), and consider welfare benefits as an alternative to paid labour (Borjas, 1999). However, as the previous section illustrated, a sharp distinction between 'labour' and 'welfare' migration may not be warranted for intra-EU migration (Andersen and Migali, 2016). Although inactive individuals have the same rights as workers to reside in another member state, their residence permits do not directly translate into social rights. In addition, even for EU migrants who are or have been active on the labour market, access to most welfare benefits either depends on long-term residence or on paid contributions.<sup>3</sup> In other

words, both the equal treatment principle and national eligibility criteria are at least partly dependent on EU migrants' employment history in the host country. To sum up, in European welfare systems, EU migrants' welfare access generally depends on (1) their lifecourse stage; (2) their position on the labour market; and (3) their length of stay in the host country (Costello and Hancox, 2014; Ruhs, 2015).

The interaction between welfare systems and labour market access is particularly relevant for research on the link between welfare and intra-European migration. Following the EU enlargements of 2004 and 2007, EU member states could postpone the opening of their labour markets for migrants from the central and eastern European countries up to a maximum period of seven years (European Commission, 2011). Many countries used this opportunity to impose tight restrictions to labour market access of migrants from the new member states and opened their labour markets at different stages. Only Ireland, Sweden and the UK allowed immediate access to EU migrants from the member states that joined in 2004; for the countries that joined in 2007, transitional arrangements were in place in the UK as well (Kahanec et al., 2014). Although transitional measures were originally implemented to protect national labour markets, they also have important implications for EU migrants' welfare access.

### 16.3 THE NETHERLANDS AS A CASE STUDY

The EU enlargements of 2004 and 2007 have led to a significant – and relatively new – east–west migration flow within Europe (Favell, 2008; Snel et al., 2015). Compared to other European countries, the Netherlands received quite large numbers of labour migrants from eastern Europe after the enlargements (Snel et al., 2015). Similar to other European countries (see e.g., Favell and Nebe, 2009), in the Netherlands this also resulted in concerns about the potential consequences of these flows including concerns about welfare migration (Kremer and Schrijvers, 2014). As these public debates mainly focused on post-accession migration from the new EU member states, our study focuses on the two largest groups coming to the Netherlands: those from Poland and Bulgaria.

#### 16.3.1 Analytical Approach

When studying the link between migration and welfare in the context of the EU enlargements of 2004 and 2007, three aspects could potentially result in an increased pressure on the Dutch welfare state. First, individual life stage characteristics of the arriving migrants are essential, as the welfare system is largely organized along the lines of the lifecourse. People are generally a net burden on the welfare system when they are in state-financed education, net contributors when they are working, and once again a burden when they are retired or require expensive medical services (Dustmann et al., 2010; Legrain, 2008). For a long time, migration research has been characterized by a focus on those in the working ages, as labour migrants have dominated migration flows. Yet this approach does not do justice to the current context of free movement of persons within the EU, which also encompasses people outside the working ages such as retirees or families moving with children (Koikkalainen, 2011). If there are large shares of Poles and Bulgarians either above or below the working age entering the Netherlands, this could potentially result in pressures on the Dutch welfare system. Second, the Dutch welfare system could be put under strain if Polish and Bulgarian migrants of



working age more often rely on welfare benefits after the EU enlargements. This particularly applies to residence-based social assistance, which can be accessed without prior contributions (Martinsen and Pons Rotger, 2017; Roos, 2016; Ruhs, 2015). Third, pressure on the Dutch welfare system could increase if Polish and Bulgarian migrants stay in the Netherlands for longer after the EU enlargements. After all, the welfare rights of EU citizens increase with the time spent in the destination country. To investigate whether any of these three patterns occurs, we analyse aggregated population register-based social statistics from Statistics Netherlands. The data are partly derived through the online database Statline (Statistics Netherlands, 2017) and partly from the research report *Migrantenmonitor*, which captures migrants' labour market status from 2007 onwards (Statistics Netherlands, 2013, 2015). Statistics Netherlands derived these statistics from the system of social statistical datasets (SSD), a system of interlinked and standardized registers and surveys.

The SSD covers a broad range of demographic and socio-economic subjects, including age, labour force participation, social security and migration. It is the most important source for official statistics in the Netherlands, and includes the full legally residing population of the country (Bakker et al., 2014). European citizens are obliged to register in the Netherlands when their expected stay in the country exceeds a minimum of three months (Gijsberts and Lubbers, 2013). National reports have revealed that not all Polish and Bulgarian migrants in the Netherlands register (e.g., Van der Heijden et al., 2013). However, having a residence registration in the destination country – that is, the Netherlands – is crucial to successful settlement and the ability to access social rights (Bruzelius, 2019). In other words, migrants need to register in the Netherlands to gain access to Dutch welfare arrangements. The share receiving welfare in the Netherlands within the total migrant populations studied here is therefore likely an overestimation of the actual share of welfare recipients.

### **16.3.2 The Dutch Welfare Context**

The Dutch welfare state offers three main benefits that provide an alternative to income from paid labour: unemployment benefits, social assistance and old-age pensions. First, and similar to corporatist welfare regimes, unemployment benefits in the Netherlands are based on social insurance contributions tied to the employment history of the individual. The level of the unemployment benefit is 75 per cent of the former salary for the first two months, and thereafter 70 per cent (Rijksoverheid, 2018b). If an individual has been employed for at least 26 weeks in the last 36 weeks before becoming unemployed, he or she will receive three months of unemployment benefits. Depending on the number of years an individual has worked, the duration can be extended to a maximum of 38 months. Neither self-employed nor unemployed individuals pay contributions for unemployment benefits in the Netherlands, and as such, they do not build up rights for this type of welfare. Second, social assistance (*Bijstand*) in the Netherlands provides those without sufficient means with a minimum income to cover basic needs. The amount a person receives depends on his or her family situation: people living together receive 100 per cent of the net minimum income (together), single persons receive 70 per cent, and single parents receive 70 per cent as well as a child budget (Rijksoverheid, 2018a).<sup>4</sup> Finally, the state pension in the Netherlands (*AOW*) is a universal benefit, which can be received by all individuals above retirement age, regardless of their employment history and nationality. For every year that a person lived and/or worked in the Netherlands from the age of 15 onwards, he or she is entitled to 2 per cent of the public pension allowance

(Verzekeringsbank, 2018). The legal retirement age used to be 65 (but has been increased stepwise since 2013), meaning that those who lived and/or worked in the Netherlands from the age of 15 have built up their full pension by the time they reach retirement age. Within Europe, Dutch pensions are considered to be fairly generous, and make up a large share of the total social expenditure of the government (OECD, 2016).

## 16.4 RESULTS

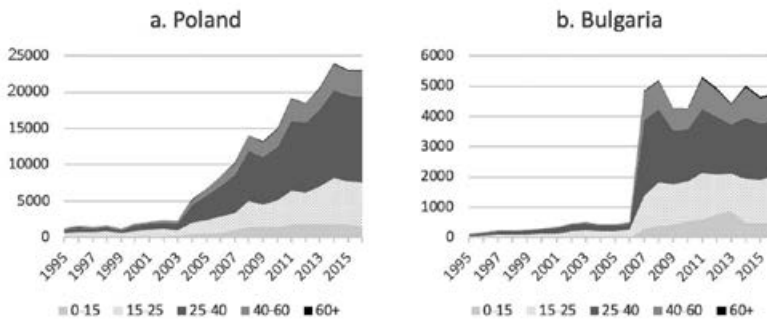
### 16.4.1 Size and Age Composition of Migration Flows

Figure 16.1 describes the migration flows from Poland and Bulgaria to the Netherlands between 1995 and 2016 in absolute numbers. Although Polish and Bulgarian migrants already came to the Netherlands before joining the EU, their numbers significantly increased after accession. We can observe a direct increase in the immigration rates from both countries after the EU enlargements, even though transitional arrangements initially restricted labour market access for Polish and Bulgarian migrants. Polish migration especially became numerically much more important: whereas 2,234 Polish migrants entered the Netherlands in 2003, this number more than doubled to 5,162 when Poland joined the EU in 2004. This group de facto became the largest immigrant group arriving in the Netherlands during this period. The number of Bulgarian migrants steeply increased as well, from 473 annual entries in 2006 to 4,840 in 2007, when Bulgaria joined the EU.

Figure 16.1 further reveals that most migrants from Poland and Bulgaria arrived in their early working ages: in the year of EU accession, 53 per cent of the Polish migrants were between 25 and 45 years old. For Bulgarian migrants, this was 62 per cent. Whereas old-age pensions typically make up the largest share within welfare expenditure by the government (OECD, 2016), these figures indicate that recent Polish and Bulgarian migrants are too young to receive the universal state pension shortly upon arrival. Unemployment benefits and social assistance thus are the most relevant welfare arrangements for these groups. For both countries only a marginal share (not more than 2 per cent annually) of persons who migrate to the Netherlands are at ages above the legal pension age. Although these older migrants can access the Dutch old-age pension after legally residing in the Netherlands for more than three months, they are unlikely to have built up Dutch pension rights before arrival, as these rights are related to years of residence and/or work in the Netherlands. Therefore, these older migrants are only entitled to a very small portion of the full state pension, and as such are unlikely to put much pressure on the Dutch welfare system.

### 16.4.2 Labour Market Status

We next investigate whether Polish and Bulgarian migrants in the working ages increasingly relied on the Dutch welfare system rather than income from paid labour after their origin countries joined the EU in 2004 and 2007, respectively. Over these years, Polish and Bulgarian migrants experienced different access to the Dutch labour market due to transitional arrangements adopted by the Dutch government. For Polish migrants, the transitional arrangements were in effect the first three years after Poland became an EU member in 2004 (that is, until May 2007). After Bulgaria joined the EU in 2007, Bulgarian migrants had restricted access to



Source: Authors' calculations based on Statistics Netherlands' StatLine Database (2017).

Figure 16.1 Size and age composition of migration flows to the Netherlands 1995–2015, absolute numbers

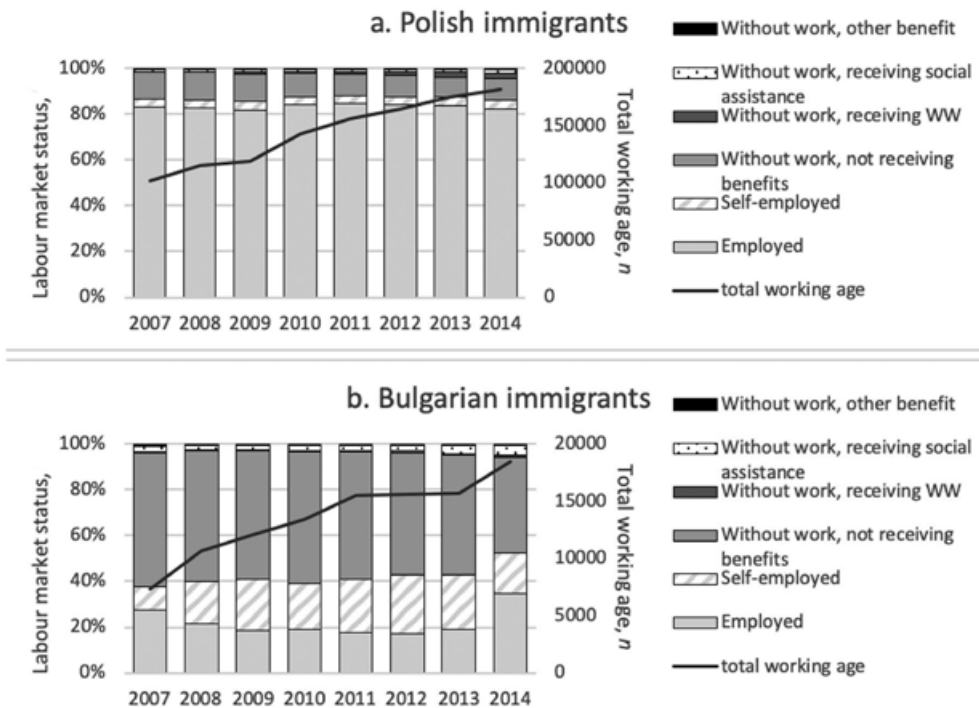
the Dutch labour market for seven years (that is, until January 2014). Over the years the transitional arrangements were in place, EU migrants from the new member states needed a special work permit to work for an employer over the first years after EU accession. Because Polish and Bulgarian migrants obtained their status as EU citizens and access to the Dutch labour market at different points in time, these groups are particularly interesting for investigating the impact of the EU enlargements on the Dutch welfare state.

Figure 16.2 shows the labour market status of the Polish and Bulgarian working age populations in the Netherlands between 2007 and 2014 as reported by Statistics Netherlands' *Migrantenmonitor* (2013, 2015). Over the studied years, most Polish and Bulgarian migrants in the Netherlands were of working age (between 85 and 95 per cent). Polish migrants have had full access to the Dutch labour market since 2007. Within the working age population, by far the majority of Polish migrants worked (around 87 per cent), of whom only a small share (around 4 per cent) was self-employed. Although still a substantial number were unemployed, the share of unemployed Poles receiving welfare benefits remained quite low and ranged from 2 to 4 per cent of the Polish migrant working age population. From 2012, unemployment benefits (*WW*) formed the main type of welfare received by this group, which is related to their former labour market participation and rights that were accumulated.

Patterns are slightly different for the Bulgarian migrant population in the Netherlands. Over the studied period, the share of Bulgarian migrants who worked in the Netherlands ranged from 37 per cent of the working age population in 2007 to 52 per cent in 2014. Furthermore, of those who worked, a relatively large share was self-employed, reaching up to 60 per cent in 2012. Transitional arrangements restricting Bulgarian migrants' access to the Dutch labour market during the first seven years after EU accession are likely responsible for these figures. To retain the right to reside in the Netherlands, EU migrants should either work in the country or have sufficient means to provide for themselves or their family members during the first years after arrival. This is reflected in our data where we observe that, despite an increase in the number of unemployed Bulgarian migrants, the share of unemployed individuals receiving welfare benefits only marginally increased from 4 to 6 per cent of the working age population. Social assistance made up the largest share of the received benefits. This too can be explained

by the transitional arrangements: due to restrictions to work for an employer, few Bulgarian migrants built up work-related insurance benefits over the transitional phase. With the abolishment of these restrictions at the beginning of 2014, the share of Bulgarian employees sharply increased from 19 per cent of the working age population in 2013 to 35 per cent in 2014. The number of self-employed Bulgarians, in contrast, decreased from 24 to 18 per cent. Still, Bulgarian migrants' use of Dutch unemployment benefits can be expected to remain low over the coming years due to the limited employment history of many of them.

Overall, the data presented in Figure 16.2 show that the welfare uptake of Poles and Bulgarians in the Netherlands remained rather low over the period following the EU enlargements. These findings show that the abolishment of border restrictions does not necessarily increase pressure on the welfare system in the host country, likely because of European and national eligibility criteria regulating welfare access. Furthermore, the type of welfare benefits mainly accessed by unemployed individuals appears related to their access to the Dutch labour market. In the context of labour market restrictions, EU migrants are less likely to build up rights to contributory unemployment benefits, which in the case of the Netherlands appeared to result in a higher reliance on non-contributory social assistance benefits.

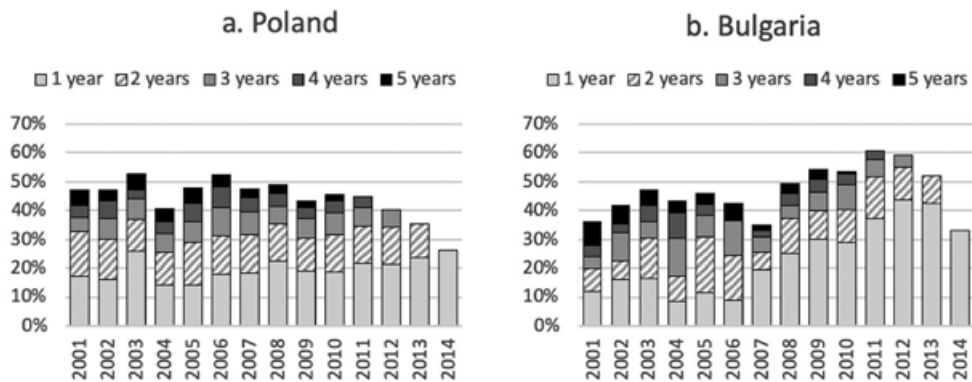


Source: Authors' calculations based on Statistics Netherlands' *Migrantenmonitor* (2013, 2015).

Figure 16.2 Labour market status and size of Polish and Bulgarian immigrant groups of working age residing in the Netherlands, 2007–14

### 16.4.3 Length of Stay: Return and Onward Migration Within the First Five Years After Arrival

Figure 16.3 displays the share of Polish and Bulgarian migrants who moved to the Netherlands between 2001 and 2014 yet left within the first five years after arrival, based on data from Statistics Netherlands. For the years 2011 and onwards, information on return and onward migration rates was included up to the most recent years available. As described above, EU migrants' welfare rights in the Netherlands all are to some extent related to individuals' length of stay. However, the data presented in Figure 16.3 do not show that Polish and Bulgarian migrants stayed for longer in the Netherlands after the EU enlargements. On average, around one-third of the Polish migrants left the Netherlands within the first two years after arrival. When Poland joined the EU in 2004, this proportion dropped, to increase again to previous levels in the following years. A different pattern can be observed for Bulgarian migrants. After EU accession in 2007, the proportion of Bulgarian migrants who left the Netherlands within the first two years after arrival initially increased slightly from 24 to 26 per cent. Figure 16.2 indicates that the share of those who left within the first year went up. In the years that followed, the share of migrants leaving within the first two years kept rising, to reach percentages above 50 per cent from 2011 onwards. In 2014, the share of migrants who left after the first year was much lower compared to previous years, possibly due to the ending of labour market restrictions for Bulgarian migrants. As more recent data are not available yet, it remains to be seen how this development evolves.



Note: For 2011 and onwards, complete data on the first five years after arrival are not yet available.

Source: Authors' calculations based on Statistics Netherlands' StatLine Database (2017).

Figure 16.3 *Share of migrants leaving the Netherlands within the first five years by year of arrival, 2001–14*

## 16.5 DISCUSSION

Over the past decade, public and scientific concerns have been raised about how open borders and extended welfare rights of migrants will place a burden on more generous welfare systems within the enlarged EU (e.g., De Giorgi and Pellizzari, 2009; Greve, 2014). Our study contributes to this debate by empirically investigating the migration patterns and welfare uptake of migrants from Poland and Bulgaria after joining the EU (in 2004 and 2007, respectively) using the Netherlands as a case study. Innovatively, we studied these two migrant groups within a single welfare system and labour market, yet under different conditions in terms of labour market access.

First, we reasoned that pressures on the welfare system do not just depend on the number of immigrants, but also on their life stage, as welfare access in European welfare systems is intrinsically connected to the lifecourse. Although the number of immigrants from Poland and Bulgaria sharply increased after these countries joined the EU in 2004 and 2007, respectively, the vast majority were in the early working ages, a life stage in which individuals typically contribute more to the welfare system than they receive in benefits. Second, we expected that the type of benefit mattered, because social assistance – as opposed to unemployment benefits – can be accessed without prior contributions. Our findings illustrate that the type of welfare used by EU migrants from the new member states crucially depends on their access to the labour market in the destination country. Dutch unemployment benefits are contribution-based, and therefore can only be accessed after former employment in the Netherlands. As labour market access was restricted for Bulgarian migrants over the studied period, this likely explains a higher (but still small) usage of social assistance compared to unemployment benefits for this group. However, in the absence of restrictions of labour market access, we found unemployment benefits to become more important than social assistance among unemployed Polish migrants receiving welfare. Finally, as the welfare rights of EU migrants in the host country build up over time, return migration may be even more important than migration per se in determining the consequences for national welfare states. Regardless of the migration reason, public finances may be affected by increased migration if sufficiently high benefit levels prevent return migration in case of unemployment or other social events (Andersen and Migali, 2016). We therefore investigated whether Polish and Bulgarian migrants' length of stay in the Netherlands increased after EU accession. The share of migrants who left the Netherlands within the first years after arrival appeared rather high for both groups. About a fifth of the Polish and a third of Bulgarian immigrants left the Netherlands within a year. After accession to the EU, in 2004 for Poland and 2007 for Bulgaria, return rates seem to have increased initially and then to stabilize again. These findings are in line with survey data in the Netherlands indicating that many European migrants do not reside for longer periods and that Bulgarians are more likely to leave than Poles (Gijsberts and Lubbers, 2015). This can partially be explained by the relatively higher levels of intermarriages between Polish migrants and Dutch individuals (Kleinepier et al., 2015). Kurekova (2013) also suggested that the short-term nature of migration from the new EU member states is potentially related to the restricted welfare rights in the destination country, with the result that many of these migrants stay more institutionally connected to the welfare regime in their origin country. In any case, for our study years, these findings show the importance of not just immigration but also emigration for the groups and their potential use of welfare arrangements.

Overall, our findings on Polish and Bulgarian migrants to the Netherlands do not support the political and scientific discourse that in the absence of border restrictions intra-EU migration increasingly puts pressure on generous welfare systems. Other studies have also indicated that many EU migrant citizens are unlikely to claim their social rights due to barriers such as a lack of information about entitlement to rights or language skills (Bruzelius et al., 2017; Ehata and Seeleib-Kaiser, 2017). Our study adds to these explanations that recent EU migrants typically do not even meet the eligibility criteria of welfare benefits on arrival. Many EU migrants move in life stages when they are least reliant on welfare state arrangements, and often leave their host country before gaining full access or the lifecourse stage to make claims on the welfare system. This is in line with the reasoning that generous welfare systems are largely resilient to increased migration after the EU enlargements due to preconditions that prevent easy access to welfare as well as the life stage and length of stay of these migrant groups (Kramer et al., 2018; Schmidt et al., 2018). By merely looking at the size of migration flows, one could therefore easily jump to biased conclusions about the impact of increased migration on national welfare systems. Nevertheless, our findings also suggest that restrictions on the labour market prevent migrants from building up contributory unemployment benefits, thereby resulting in a greater reliance on non-contributory social assistance among those who become unemployed and receive a welfare benefit.

Although EU migrants from the new member states are often grouped together in research on the relationship between migration and the welfare system (e.g., Martinsen and Werner, 2019), it is noteworthy that the two groups considered in this study may actually capture very different types of migrants: Polish migrants are, by and large, in paid employment whereas the majority of Bulgarians are either self-employed or do not have any income (from employment and benefits). This suggests that the latter group is mostly comprised of those who come to the Netherlands without the prospect of stable employment and are therefore also more likely to return when not being able to gain any employment after one year. The economic situation in Bulgaria (one of the poorest EU member states) may encourage a move abroad that would in all cases be an improvement in life conditions. The labour market restrictions that applied to this group until 2014 kept them out of the formal economy but may have resulted in more informal economic activities (that are obviously not captured in our register data) and explain the large share of migrants among this group who are not in employment but also not receiving benefits. Polish migrants, on the other hand, seem to arrive in a context where employment is already secured. Thus, migrants may give less consideration to the welfare available in the destination country and more to their situation in the origin country compared to elsewhere. Further research would therefore benefit from a comprehensive and comparative analysis of different European countries on how decisions to stay, return or move onwards are shaped via welfare at origin and destination. In addition, qualitative data could shed more light on the ways in which migrants from different origin countries in the EU make their decisions.

In this study, we have argued that welfare usage of mobile EU citizens after settlement does not necessarily indicate that the welfare system in the destination country motivated their move abroad. At the same time, low welfare usage by EU migrants, as found in this study, also does not prove that welfare is irrelevant to their migration decisions. First, it is possible that EU migrants *do* consider the welfare system in the destination country, but have limited information on welfare arrangements, or are not aware of the eligibility criteria attached to them. Qualitative studies indeed signal that EU migrants from the new member states are not always fully or adequately informed about their welfare rights in the destination country (e.g.,

Alho and Helander, 2016; Ehata and Seeleib-Kaiser, 2017). Similar findings are reported for migrants from outside of the EU (third country nationals) who often also have no or limited knowledge on welfare arrangements and related eligibility criteria (Renema et al., 2017). Alternatively, welfare arrangements may play a role in migration decisions, but not in the shape of a ‘work or welfare’ trade-off. After all, returns from the labour market are likely higher than those from welfare benefits for active EU migrants, whereas inactive EU migrants are initially not eligible for welfare in the host country. Rather, welfare benefits could form a supplement to income from paid labour, for instance, through family or housing benefits, or may be perceived as a safety net to protect against loss of income. In turn, instead of an independent magnet effect, welfare systems may affect migration decisions together with other factors, such as labour market characteristics. Such alternative mechanisms deserve more attention in subsequent studies on the role of welfare systems in migration decisions. Finally, instead of focusing on a ‘magnet’ effect of generous welfare arrangements in the destination country, Bruzelius and colleagues (2017) argue that the welfare system in the origin country may shape the ability to settle in another member state. They suggest that it remains extremely difficult for economically inactive EU migrants to access minimum subsistence benefits during the first five years after moving to another member state. These migrants are therefore initially dependent on the ‘export’ of benefits from their country of origin.

## 16.6 CONCLUSION

To conclude, even in the context of free mobility, EU migrants’ welfare access in the destination country depends, on the one hand, on European and national eligibility criteria and, on the other hand, on migrants’ lifecourse characteristics, length of stay and labour market status. This has important implications for future studies investigating the link between welfare and intra-European migration. First, our study reveals that merely comparing the size of migration flows provides insufficient information to assess the consequences of the right to freedom of movement for national welfare systems. Instead of treating migrants as a collective group, variation within intra-European migration flows in terms of personal characteristics such as life stage, labour market position and length of stay should be acknowledged (Schulzek, 2012). As lifecourse characteristics are important indicators of individuals’ welfare rights in European welfare systems, the lifecourse should be systematically included in research on the link between migration and the welfare state (for recent efforts, see de Jong, 2019; de Jong and de Valk, 2019; de Jong et al., 2019). On a similar note, the gendered nature of migration and the role of welfare also needs more attention in future studies. Second, our findings demonstrate how the right to reside in another member state and access to social rights is still largely tied to economic status, despite expansions of freedom of movement and social rights on the basis of EU citizenship (Bruzelius et al., 2017). This contradicts the claim that national governments are directly accessible to EU migrants in the context of free mobility within the EU, and implies that figures on EU migrants’ welfare usage should not be explained as a proxy of ‘welfare migration’. Finally, whereas previous studies often grouped EU migrants together in their analyses, our findings illustrate important variation between migrants from different countries of origin. Thus, future research investigating the link between welfare and intra-European migration should not only consider whether people move towards countries



with a generous welfare system, but also *who* moves and how the situation at origin, including welfare, shapes their migration decisions.

## ACKNOWLEDGEMENTS

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## NOTES

1. Although movements within the European Union are also referred to as ‘mobility’, in this chapter we refer to ‘EU migration’ for EU citizens who migrate within the EU to acknowledge the special status of mobile EU citizens as compared to natives in terms of their welfare rights in another EU member state.
2. Letter from Johanna Mikl-Leitner (Minister of the Interior, Austria), Hans Peter Friedrich (Minister of the Interior, Germany), Fred Teeven (Minister for Immigration, Netherlands) and Theresa May (Home Secretary, UK) to the EU Council Presidency and to Commissioners Viviane Reding, Cecilia Malmström and László Andor.
3. Exceptions are universal benefits and in-work benefits (Vandenbroucke, 2016).
4. The Dutch government adjusts the minimum income twice a year for it to match the average contractual wage development in the governmental and market sector. Over the years under study, the gross monthly amounts varied from 1,154,50 euros in 2001 to 1,578,00 euros in 2015 (Eurostat, 2018).

## REFERENCES

- Alho, R. and Helander, M. (2016). Foreign seasonal farm workers’ strategies at the margins of the Finnish welfare state: informal networks and weak ties. *Nordic Journal of Migration Research*, **6**(3), 148–57. doi: 10.1515/njmr-2016-0020
- Andersen, T.M. and Migali, S. (2016). Migrant workers and the welfare state. IZA Discussion Papers, Vol. 9940, Institute for the Study of Labor (IZA).
- Anttonen, A. (2002). Universalism and social policy: a Nordic-feminist reevaluation. *NORA: Nordic Journal of Women’s Studies*, **10**(2), 71–80.
- Bakker, B.F.M., Van Rooijen, J., and Van Toor, L. (2014). The system of social statistical datasets of Statistics Netherlands: an integral approach to the production of register-based social statistics. *Statistical Journal of the IAOS*, **30**(4), 411–24.
- Beaudonnet, L. (2015). A threatening horizon: the impact of the welfare state on support for Europe. *Journal of Common Market Studies*, **53**(3), 457–75. doi: 10.1111/jcms.12196
- Blauberger, M. and Schmidt, S.K. (2017). Free movement, the welfare state, and the European Union’s over-constitutionalization: administrating contradictions. *Public Administration*, **95**, 437–49.
- Blauberger, M., Heindlmaier, A., Kramer, D. et al. (2018). ECJ judges read the morning papers. Explaining the turnaround of European citizenship jurisprudence. *Journal of European Public Policy*, **25**(10), 1422–41. doi: 10.1080/13501763.2018.1488880
- Borjas, G.J. (1999). Immigration and welfare magnets. *Journal of Labor Economics*, **17**(4), 607–37. doi: 10.1086/209933
- Bruzelius, C. (2019). Freedom of movement, social rights and residence-based conditionality in the European Union. *Journal of European Social Policy*, **29**(1), 70–83. doi: 10.1177/0958928718756262

- Bruzelius, C., Reinprecht, C., and Seeleib-Kaiser, M. (2017). Stratified social rights limiting EU citizenship. *JCMS Journal of Common Market Studies*, **55**(6), 1239–53. doi: 10.1111/jcms.12555
- Clasen, J. and Clegg, D. (2006). Beyond activation: reforming European unemployment protection systems in post-industrial labour markets. *European Societies*, **8**(4), 527–53. doi: 10.1080/14616690601002582
- Costello, C. and Hancox, H. (2014). *The UK, EU Citizenship and Free Movement of Persons. Migration Observatory Policy Primer*. Oxford: COMPAS.
- De Beer, P.T., Wildeboer Schut, J.M., and Vrooman, J.C. (2001). *On Worlds of Welfare: Institutions and Their Effects in Eleven Welfare States*. Den Haag: Sociaal en Cultureel Planbureau.
- De Giorgi, G. and Pellizzari, M. (2009). Welfare migration in Europe. *Labour Economics*, **16**(4), 353–63. doi: 10.1016/j.labeco.2009.01.005
- De Graaf, W. and Maier, R. (2017). The welfare state and the life course: examining the interrelationship between welfare arrangements and inequality dynamics. *Social Policy & Administration*, **51**(1), 40–55. doi: 10.1111/spol.12153
- de Jong, P.W. (2019). Between welfare and farewell: the role of welfare systems in intra-European migration decisions. Retrieved February 2020 from [https://www.rug.nl/research/portal/publications/between-welfare-and-farewell\(e61b60e9-3a18-4a33-a8cd-6208e2fc510b\).html](https://www.rug.nl/research/portal/publications/between-welfare-and-farewell(e61b60e9-3a18-4a33-a8cd-6208e2fc510b).html).
- de Jong, P.W. and de Valk, H.A.G. (2019). Intra-European migration decisions and welfare systems: the missing life course link. *Journal of Ethnic and Migration Studies*, 1–19. doi: 10.1080/1369183X.2019.1611421
- de Jong, P.W., Adserà, A., and de Valk, H.A.G. (2019). The role of welfare in locational choices: modelling intra-European migration decisions across the life-course. *Tijdschrift voor economische en sociale geografie*. doi: 10.1111/tesg.12390
- Dustmann, C., Frattini, T., and Halls, C. (2010). Assessing the fiscal costs and benefits of A8 migration to the UK. *Fiscal Studies*, **31**(1), 1–41.
- Ehata, R. and Seeleib-Kaiser, M. (2017). Benefit tourism and EU migrant citizens: real-world experiences. In J. Hudson, C. Needham, and E. Heins (eds), *Social Policy Review 29: Analysis and Debate in Social Policy* (pp. 181–98). Bristol and Chicago, IL: Bristol University Press.
- Esping-Andersen, G. (1990). *The Three Worlds of Welfare Capitalism*. Cambridge: Polity Press.
- European Commission (2011). *Free Movement: Workers from Eight Member States That Joined EU in 2004 Finally Enjoy Full Rights*. Brussels.
- Eurostat (2018). Monthly minimum wages – bi-annual data. Retrieved September 2018 from <https://data.europa.eu>.
- Favell, A. (2008). The new face of East-West migration in Europe. *Journal of Ethnic and Migration Studies*, **34**(5), 701–16. doi: 10.1080/13691830802105947
- Favell, A. and Nebe, T. (2009). Internal and external movers: East-West migration and the impact of EU enlargement. In A. Favell and E. Recchi (eds), *Pioneers of European Identity: Citizenship and Mobility in the EU* (pp. 205–23). Cheltenham, UK and Northampton, MA, USA: Edward Elgar Publishing.
- Ferrera, M. (2005). *The Boundaries of Welfare: European Integration and the New Spatial Politics of Social Protection*. Oxford: Oxford University Press.
- Freeman, G.P. (1986). Migration and the political economy of the welfare state. *The Annals of the American Academy of Political and Social Science*, **485**(1), 51–63.
- Gijsberts, M. and Lubbers, M. (2013). *Nieuw in Nederland. Het level van recent gemigreerde Bulgaren en Polen*. Den Haag: Sociaal en Cultureel Planbureau.
- Gijsberts, M. and Lubbers, M. (2015). *Langer in Nederland. Ontwikkelingen in de leefsituatie van migranten uit Polen en Bulgarije in de eerste jaren na migratie* (Vol. 8). Den Haag: Sociaal en Cultureel Planbureau.
- Greve, B. (2014). Free movement as a threat for universal welfare states? *European Review*, **22**(3), 388–402. doi: 10.1017/s1062798714000234
- Heindlmaier, A. and Blauburger, M. (2017). Enter at your own risk: free movement of EU citizens in practice. *West European Politics*, **40**(6), 1198–217. doi: 10.1080/01402382.2017.1294383
- Josifidis, K., Supic, N., Pucar, E.B., and Srdic, S. (2014). Labour migration flows: EU8+2 vs EU-15. *Journal of Business Economics and Management*, **15**(1), 41–55. doi: 10.3846/16111699.2013.841283
- Kahanec, M. and Pytlikova, M. (2017). The economic impact of east-west migration on the European Union. *Empirica*, **44**(3), 407–34. doi: 10.1007/s10663-017-9370-x

- Kahanec, M., Pytlikova, M., and Zimmermann, K.F. (2014). Free movement of workers in an enlarged European Union: institutional underpinnings of economic adjustment. In M. Kahanec and K.F. Zimmermann (eds), *Migration and the Great Recession: Adjustments in the Labour Market of an Enlarged European Community* (pp. 1–34). Berlin and Heidelberg: Springer-Verlag.
- Kleinepier, T., de Valk, H.A.G., and Van Gaalen, R.I.A. (2015). Life paths of migrants: a sequence analysis of Polish migrants' family life trajectories. *European Journal of Population*, **31**(2), 155–79.
- Koikkalainen, S. (2011). Free movement in Europe: past and present. Retrieved 22 June 2015 from <http://migrationinformation.org/Feature/display.cfm?ID=836>.
- Kramer, D., Thierry, J.S., and van Hooren, F. (2018). Responding to free movement: quarantining mobile union citizens in European welfare states. *Journal of European Public Policy*, **25**(10), 1501–21. doi: 10.1080/13501763.2018.1488882
- Kremer, M. and Schrijvers, E. (2014). Making Romanian and Bulgarian migration work in the Netherlands. *WRR-Policy Brief No. 1*. WRR, Den Haag.
- Kurekova, L. (2013). Welfare systems as emigration factor: evidence from the new accession states. *Journal of Common Market Studies*, **51**(4), 721–39. doi: 10.1111/jcms.12020
- Kvist, J. (2004). Does EU enlargement start a race to the bottom? Strategic interaction among EU member states in social policy. *Journal of European Social Policy*, **14**(3), 301–18. doi: 10.1177/095892870404044625
- Lafleur, J.M. and Mescoli, E. (2018). Creating undocumented EU migrants through welfare: a conceptualization of undeserving and precarious citizenship. *Sociology – the Journal of the British Sociological Association*, **52**(3), 480–96. doi: 10.1177/0038038518764615
- Lafleur, J.M. and Stanek, M. (2017). Restrictions on access to social protection by new southern European migrants in Belgium. In J.M. Lafleur and M. Stanek (eds), *South-North Migration of EU Citizens in Times of Crisis* (IMISCOE Research Series, pp. 99–121). Dordrecht: Springer.
- Legrain, P. (2008). *Is Free Migration Compatible with a European-Style Welfare State?* The Globalisation Council.
- Mantu, S.A. and Minderhoud, P.E. (2016). Exploring the limits of social solidarity. Welfare tourism and EU citizenship. *UNIO – EU Law Journal*, **2**(2), 4–19.
- Martinsen, D.S. (2005). The Europeanization of welfare – the domestic impact of intra-European social security. *Journal of Common Market Studies*, **43**(5), 1027–54. doi: 10.1111/j.1468-5965.2005.00607.x
- Martinsen, D.S. and Pons Rotger, G. (2017). The fiscal impact of EU immigration on the tax-financed welfare state: testing the 'welfare burden' thesis. *European Union Politics*, **18**(4), 620–39.
- Martinsen, D.S. and Werner, B. (2019). No welfare magnets – free movement and cross-border welfare in Germany and Denmark compared. *Journal of European Public Policy*, **26**(5), 637–55. doi: 10.1080/13501763.2018.1481136
- Nannestad, P. (2007). Immigration and welfare states: a survey of 15 years of research. *European Journal of Political Economy*, **23**(2), 512–32. doi: 10.1016/j.ejpoleco.2006.08.007
- OECD (2016). OECD Social Expenditure Database (SOCX). <http://stats.oecd.org> (accessed September 2018).
- Renema, J., Meuleman, R., and Lubbers, M. (2017). Immigrants' knowledge about their group's access: a study among 10 immigrant groups in the Netherlands. Paper presented at the Dag van de Sociologie, Brussels, 8 June.
- Rijksoverheid (2018a). Bijstand. <https://www.rijksoverheid.nl/onderwerpen/bijstand> (accessed September 2018).
- Rijksoverheid (2018b). WW-uitkering. <https://www.rijksoverheid.nl/onderwerpen/ww-uitkering> (accessed September 2018).
- Roos, C. (2016). Freedom of movement in the EU and welfare state closure: welfare regime type, benefit restrictions and their implications for social mobility. In M. Wulfgramm, T. Bieber, and S. Leibfried (eds), *Welfare State Transformations and Inequality in OECD Countries. Transformations of the State* (pp. 267–89). London: Palgrave Macmillan.
- Ruhs, M. (2015). *Is Unrestricted Immigration Compatible with Inclusive Welfare States? The (Un) Sustainability of EU Exceptionalism*. Oxford: COMPAS.
- Ruhs, M. and Palme, J. (2018). Institutional contexts of political conflicts around free movement in the European Union: a theoretical analysis. *Journal of European Public Policy*, **25**(10), 1481–500.

- Schmidt, S.K., Blauburger, M., and Martinsen, D.S. (2018). Free movement and equal treatment in an unequal union. *Journal of European Public Policy*, **25**(10), 1391–402. doi: 10.1080/13501763.2018.1488887
- Schulzek, N. (2012). *The Impact of Welfare Systems on Immigration: An Analysis of Welfare Magnets as a Pull-Factor for Asylum Seekers and Labour Migrants*. London: LSE Migration Studies Unit.
- Snel, E., Faber, M., and Engbersen, G. (2015). Civic stratification and social positioning: CEE labour migrants without a work permit. *Population, Space and Place*, **21**(6), 518–34. doi: 10.1002/psp.1846.
- Statistics Netherlands (2013). *Migrantenmonitor 2007–2012*. Retrieved January 2018 from <https://www.cbs.nl/nl-nl/maatwerk/2013/10/migrantenmonitor-fase-2>.
- Statistics Netherlands (2015). *Migrantenmonitor 2013–2014*. Retrieved January 2018 from <https://www.cbs.nl/nl-nl/maatwerk/2015/51/migrantenmonitor-2013-2014>.
- Statistics Netherlands (2017). StatLine Database. Retrieved January 2018 from <http://statline.cbs.nl/statweb/>.
- Van der Heijden, P.G.M., Cruyff, M., and van Gils, G. (2013). *Aantallen geregistreeerde en niet-geregistreeerde burgers uit MOE-landen die in Nederland verblijven*. Rapportage schattingen 2009 en 2010. Utrecht: Universiteit Utrecht.
- Vandenbroucke, F. (2016). Social benefits and cross-border mobility. Sticking to principles may yield better practical results for everybody. Tribune: Notre Europe Institut Jacques Delors.
- Verzekeringsbank, S. (2018). <https://www.svb.nl/int/nl/aow>.

PART VI

POLICY

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# 17. The American welfare state in the economic lives of children

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## 17.1 INTRODUCTION

Welfare state benefits in all rich nations play an important role in the lives of children, especially children in the poorest quintile of the income distribution (Garfinkel et al., 2010). This chapter utilizes data from the Fragile Families and Child Wellbeing Study to describe the prevalence, composition, and value of welfare state benefits in the lives of children born in large US cities at the turn of the 21st century. The topic is important because so little is known about it. Nearly all welfare state research focuses on a particular program or a narrow set of programs. In-kind benefits, like health, education, and housing are usually ignored. Thus, myths about the size and nature of welfare states abound. For example, the US welfare state is small and married parents get much smaller benefits than unmarried parents. The chapter addresses the following questions:

1. How much do welfare state benefits and the taxes required to finance them narrow the income gap between children in different types of families?
2. What proportion of families with children receive welfare state benefits? What types of benefits do they receive, and what is the dollar value of different types of benefits?
3. How does the welfare state benefit package differ for married and unmarried-parent families? Among the latter, how do benefits differ for cohabiting-parent families and single mother families?
4. How large are welfare state benefits relative to market income? How does this vary by mothers' marital status and living arrangements?
5. How do welfare state benefits change over time, as children age from one to fifteen?
6. How do the gains in full income from marriage among fragile families compare to the losses from divorce? Do welfare state transfers cushion the changes in full income associated with changes in marital status?

This study builds upon work by Howard (2007) and Hacker (2002), by incorporating what they refer to respectively as the “hidden” and “divided” American welfare state, and especially upon work by Garfinkel et al. (2006, 2010), which extends and amends the comparative welfare state literature by including in-kind benefits, tax benefits, and taxes required to finance the benefits. It also directly relates to Chapters 3 and 9 in this volume.

Most directly it extends work by Garfinkel and Zilanawala (2015) who examined welfare state benefits for children born to married-parent families and “fragile families,” defined as families formed by unmarried parents. We extend their work in six ways; first, while Garfinkel and Zilanawala examined welfare state benefits during the first five years of a child's life, our analysis extends the time frame to ages nine and fifteen. Adding later years allows us to include the value of public education. Second, while Garfinkel and Zilanawala developed their

own estimates of tax benefits, we use the National Bureau of Economic Research (NBER) tax simulator to estimate tax benefits. Third, we now impute missing data, using Stata's Multiple Imputations by Chained Equations (MICE). Fourth, we estimate the value of employer provided health insurance more precisely than Garfinkel and Zilanawala. Fifth, whereas Garfinkel and Zilanawala's findings can be generalized to children born in 20 large US cities, our results using weighted data can be generalized to all children born between 1998 and 2000 in large US cities (with populations of 200,000 or more). Lastly, while most of the benefits examined by Garfinkel and Zilanawala were specific to a particular child, we examine benefits at the household level, which allows us to include benefits to all children in the family.

We find that American welfare state benefits: (1) loom large in the lives of children, especially children born into fragile families; (2) are dominated by education and health; (3) are larger than suggested by prior research; and (4) narrow the gap in the total economic resources available to children born into different types of families. The next three sections of the chapter summarize the previous literature, describe the data and methods, and present results. The chapter concludes with a brief summary, suggestions for future research, and implications for policy.

## 17.2 LITERATURE REVIEW

The traditional approach to estimating the economic wellbeing of families with children focuses on market income and cash transfers. In their 2010 book Garfinkel et al. (2010) argue that the focus on cash transfers is too narrow and leads to an underestimate of the wellbeing of US families and children. Specifically, they argue that US expenditures on in-kind government benefits such as Medicaid, food stamps, and public housing are larger than expenditures on cash transfers such as Temporary Assistance to Needy Families (TANF) (Rice, 2010; US Census Bureau, 2012a). Furthermore, they note that several US tax credits, deductions, and exclusions are economically comparable to cash and in-kind transfers, including the Earned Income Tax Credit (EITC), a partially refundable child tax credit, a tax credit for child care expenses, a homeownership mortgage interest and property tax deduction in the federal income tax, and employer provided health insurance which is excluded from taxable income.

These authors develop a new measure of family economic resources – “full income” – that includes market income, plus cash and the value of in-kind and fringe benefits to recipients, minus the taxes required to pay for these benefits. As compared to disposable income, full income provides a more suitable measure of a household's command over economic resources (Smeeding, 1982). When in-kind benefits are valued at full government or market cost, differences in inequality between the US and other rich nations shrink considerably at the bottom of the income distribution (Garfinkel et al., 2010). The authors further show that in the US, results are quite sensitive to valuations of in-kind benefits, particularly Medicaid.

The GRS (Garfinkel, Rainwater, and Smeeding) measure of welfare state transfers includes public education and employer provided benefits, which is somewhat controversial. Although most cross-national comparative welfare state analyses do not include education, the conceptual definition of welfare states, as proposed by leading scholars, does so (Barr, 1993; Esping-Anderson, 1990). Employer provided health insurance is also often ignored in welfare state benefits research. A few economists have included the tax subsidy that comes from excluding private insurance from the federal income tax base. However, in accordance with

Lampman (1978) and Hacker (2004), GRS count the total value of employer provided health insurance as a welfare state transfer. Though employer provided health insurance, unlike tax financed health insurance, fails to redistribute on the financing side, it does involve socialization of the risk of ill health and redistribution from the healthy to the sick, at the firm rather than the national level. Failing to count the full value of employer provided health insurance understates both the aggregate benefits and costs and the distribution of both benefits and costs of the US model for providing health insurance. In order to analyse how transfers and full incomes vary as a result of changes in family status, the full value of health insurance must be considered. If a mother loses private health insurance as a result of divorce but gains Medicaid, she loses the full value of private health insurance, not just the tax subsidized portion.

Utilizing the same methodology as GRS, Garfinkel and Zilanawala (2015) use the Fragile Families and Child Wellbeing Study to describe the role of welfare state benefits in the economic lives of children between birth and age five. The income package in their analyses consists of income from the market, plus welfare state cash and in-kind transfers and tax credits, minus the taxes required to finance the transfers. Results revealed that the inclusion of welfare state transfers narrowed the income gap between children born to married parents and children born into fragile families. Among the latter, the absolute amount of transfers exceeded the amount of taxes paid by \$11,000, increasing incomes from an average of \$34,000 to \$45,000. Among married-parent families, taxes paid to finance welfare state benefits were greater than benefits received, decreasing incomes from an average of \$93,000 to \$85,000. Although the absolute value of welfare state benefits was similar among different types of families, the relative value was very different. Welfare state benefits accounted for around 27 percent of full incomes for children born into fragile families, 33 percent of income for those born to cohabiting parents, and 66 percent of income for those born to single mothers.

## 17.3 METHODS

### 17.3.1 Data

This chapter uses data from the Fragile Families and Child Wellbeing Study (FFCWS), a population-based birth cohort study of around 5,000 children born in 20 large US cities (populations of 200,000 or more) between 1998 and 2000. Births to unmarried parents were oversampled, yielding a final sample of 3,710 non-marital births and 1,187 marital births. Follow-up interviews were conducted when the child was one, three, five, nine, and fifteen years old. Reichman et al. (2001) provide further details on the design of the FFCWS.

To describe and assess the role of welfare state benefits during early and middle childhood and adolescence within different types of families, we distinguish between married-parent families and fragile families. Among the latter, we also distinguish between cohabiting parents and single mothers. Note that our definition of family type is based on parents' relationship status at each interview and may change over time.

#### 17.3.1.1 Sample

We use data from the mother survey when the sample child was ages one, three, five, nine, and fifteen years old; the analytic sample sizes are 3,367, 3,352, 3,325, 3,161, and 2,939, respectively. In order to make the data representative of large US cities, weights limit the



sample from the original 20 cities to the 16 randomly selected cities. Observations in which the mother is reported to not have primary custody of the child are also eliminated from the sample. The income variables – market income and cash and in-kind transfers – are measured at each survey wave. The mother’s relationship status, living arrangements, and household composition are also measured at each wave, allowing for future work to incorporate estimates of changes in income packages over time in response to changes in family status.

### **17.3.2 Measures**

A household’s income package is measured as the sum of (1) market income, (2) welfare state cash and in-kind transfers, and (3) tax credits. Tax liabilities are then subtracted from this sum. We include two sources of market income: mother’s earnings and partner’s earnings. (Interest, dividends and rents are not included in the analysis, thereby understating difference between married and unmarried families.) Cash transfers consist of Temporary Assistance to Needy Families (TANF), Supplementary Security Income (SSI), and other cash assistance. In-kind transfers include K-12 education, Medicaid, employer provided health insurance, Food Stamps, the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), Housing Assistance, and Early Childhood Education and Care (ECEC). Tax credits include the Earned Income Tax Credit (EITC), homeowners’ tax subsidy, child tax credit or deduction, and the health insurance tax subsidy. This section describes how each component of a household’s income package is reported and/or estimated.

#### **17.3.2.1 Market income**

##### *Mothers’ earnings*

Mothers were asked to report earnings from their primary job. Earnings were reported as: daily, weekly, bi-weekly, every three weeks, monthly, or yearly. Annual earnings are measured by multiplying the reported earnings by the appropriate number of periods per year. For weekly earnings, we assume there are 4.35 weeks per month. Mothers who report working at multiple jobs over the past 12 months are asked to provide the exact amount earned from all regular jobs in the last year. If a mother reports earnings from a primary job and earnings from multiple jobs, the larger of the two is used. When respondents are unable to report an exact amount of earnings, we use the median reported range interval of earnings to estimate earnings.<sup>1</sup>

##### *Married or cohabiting father’s earnings*

Mothers who are currently married or cohabiting with a partner are assumed to share household income and expenditures with the partner. As a result, the full household income includes the earnings of the mother and her partner. Biological fathers are interviewed at each wave, excluding year 15. In years 1 through 9, the earnings of biological fathers who are living with the mother are estimated using the same methodology as described for mothers’ earnings. Mothers also report biological fathers’ earnings at years 1 and 15. Where possible, mothers’ reports of biological fathers’ earnings are used to fill in missing observations. Mothers’ new partners, who are not the biological father, are not interviewed. Nor is the mother asked to report the new partners’ earnings in years 1 through 9. New partners’ earnings are estimated in years 1 through 9 based on mothers’ reports of total household cash income. Mothers’ earnings and all reported cash transfers (as described below) are subtracted from the reported total

household cash income.<sup>2</sup> The difference, when positive, is considered to be the new partners' earnings. At year 15, mothers are asked to report their partners' earnings. Biological fathers and new partners' earnings at year 15 are estimated based on this question using the same methodology as described for mothers' earnings.

### **17.3.2.2 Welfare state transfers**

#### *Cash transfers*

Receipt of TANF/Welfare, SSI, and other cash assistance are reported in the data. From year 1 through year 9, the survey asks mothers to report the number of months of benefit receipt and the dollar amount received per month. The annual benefit values are then calculated as the product of the two. In year 15, mothers are asked to report the amount of each benefit received in the past year.

#### *In-kind transfers*

The in-kind benefits included in the analyses are: Food Stamps, WIC, K-12 education, housing assistance, ECEC, Medicaid, and employer provided health insurance. In order to estimate the value of each of these in-kind benefits we determine which families receive the benefit and place a value on those benefits. Receipt of in-kind benefits were reported by mothers. However, reports vary by benefit. The same method is utilized to value all in-kind benefits. The value of in-kind benefits to beneficiaries may be less than their cost to tax payers (Smeeding, 1982). As a result, valuing in-kind transfers is problematic. On the other hand, the value of in-kind transfers to beneficiaries is greater than zero, their implicit assigned value when ignored. We follow Garfinkel et al. (2010) and value in-kind benefits at government cost.

#### *Food Stamps*

Receipt of Food Stamps is reported in the survey. Similar to cash transfers, in years 1 through 9, the benefit value of Food Stamps received is calculated as a product of the reported number of months of Food Stamp receipt and the dollar amount received per month.

For year 15, we use mothers' reports of the amount received in the past year.

#### *K-12 education*

In estimating public education benefits, Garfinkel and Zilanawala (2015) include in-kind transfers received for children enrolled in kindergarten at year 5. The current chapter expands this estimate in three ways. First, we include K-12 educational benefits at years 9 and 15. Second, at each wave, we assume all children in the household between the ages of five and eighteen are enrolled in public education. The value of in-kind benefits from public education are estimated separately by state and year based on average per pupil K-12 education costs provided by the National Center for Education Statistics (NCES) and the Census Bureau (NCES, 2010; US Census Bureau, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012b, 2016).<sup>3</sup> Lastly, the current chapter considers differences in within-state expenditures. Wilson et al. (2006) find education expenditures differ by up to 50 percent between rich and poor districts. To account for this variation, families in the top income quintile are estimated to receive 25 percent more in educational benefits than the state mean, the bottom quintile is estimated to receive 25 percent less than the mean, individuals in the middle receive the state mean, and

the second and fourth quintiles receive 12.5 percent more or less than the mean. The estimate is then multiplied by the number of children in the household enrolled in K-12 education.

#### *Early Childhood Education and Care (ECEC)*

Early childhood education benefits are estimated at years 1, 3, and 5. ECEC benefits include child care, pre-kindergarten, and Head Start subsidies. In years 1 and 3, ECEC benefits are estimated based on the mother's report of the amount of child care assistance received from government agencies, employers, or child care centers. At year 5, mothers report receipt of child care or pre-kindergarten assistance. However, they do not report the values of these benefits. Annual subsidy values are estimated for families who report receiving a subsidy, using the state average annual cost of child care (NACCRRRA, 2008) minus mother's reported annual out-of-pocket expenses. Families in which the child is reported to be in non-parental child care arrangements and who also indicate subsidy receipt are assigned an annual subsidy value based on values from the year 3 survey (according to the type of non-parental arrangement) minus any out-of-pocket expenses. Child care assistance estimations remain relatively consistent with those used by Garfinkel and Zilanawala (2015), with one exception: we include mothers' reports of annual out-of-pocket child care expenses for all children in the household.

Consistent with Garfinkel and Zilanawala, the sample child's enrollment in pre-kindergarten is determined using the mothers' report.<sup>4</sup> State average annual spending per child in pre-kindergarten is assigned to all families in which the sample child is reported to be enrolled in pre-kindergarten and indicate subsidy receipt (National Institute for Early Education Research, n.d.).

In years 1, 3, and 5, children's participation in a Head Start program is reported by mothers. We estimate Head Start average annual allocations per child by state for all eligible children in the household ages zero to five years old (Head Start Bureau, 2016). In year 9 and 15 surveys, we estimate the value of the benefit for eligible children under the assumption that if the sample child participated in Head Start at age five, subsequent younger children also participate in the program.

#### *Housing assistance*

The fragile families data do not provide the value of housing assistance received. However, receipt of housing assistance is based on whether the mother reports having received federal, state, or local government help in paying rent or reported living in a public housing project. Mothers were also asked to provide the amount of out-of-pocket rent paid per month. The value of housing assistance received is determined by subtracting the amount of rent paid per month from the Fair Market Rent (FMR), estimated per city and year (US Department of Housing and Urban Development, 2017). The difference is then multiplied by 12 to determine the annual housing assistance received.

#### *Medicaid*

At ages one, three, and five receipt of Medicaid (mother only, child only, or both) is reported by mothers. To estimate the average value of Medicaid receipt per adult and child enrollee, we use Kaiser Family Foundation estimates of average Medicaid spending per state and per enrollee in 2011 (adults and children) as well as estimates for average growth in annual Medicaid spending.<sup>5</sup> At the age nine interview, mothers report receipt of Medicaid for the child but not herself. To determine mother's receipt of Medicaid when the child was age nine, we

assume that if the child receives Medicaid at age nine, the mother does as well, unless at age five she reported that the child received Medicaid and she did not. We further limit estimates to mothers who reported having any type of insurance at the age nine survey. Similarly, at the age 15 interview the mother only reports receipt of Medicaid for the sample child. To estimate the mother's receipt of Medicaid, we use the same estimation strategy as for year 9. Medicaid estimates differ from those used by Garfinkel and Zilanawala (2015), which only include the benefit received by the mother and/or sample child. In the current chapter, we additionally include benefits received for other children in the household.<sup>6</sup>

### *WIC*

Receipt of WIC at ages one, three, and five is estimated based on mothers' reports. The value of the benefit is determined using state average monthly WIC benefits per person (United States Department of Agriculture, n.d.). Respondents are not asked to report the number of months of WIC receipt during the last 12 months. However, according to the National WIC Association, mothers and their children up to age five are very likely to be WIC recipients conditional on income and nutrition risk tests. Therefore, if mothers reported WIC receipt, we assume they met the eligibility requirements and received WIC during the past 12 months. Garfinkel and Zilanawala (2015) assign this benefit to all households who report being WIC recipients. In order to estimate the WIC benefits received by other eligible children in the household, the current chapter multiplies the benefit by the number of children in the household below the age of five. In the age nine and fifteen surveys, mothers are not asked to report receipt of WIC. We assume that if the sample child is eligible for WIC at the age five survey, children up to age five in the household remain eligible at age nine and fifteen surveys.

### *Employer provided health insurance*

In the surveys conducted when the sample children were ages one, three, and five, mothers report private health insurance receipt for themselves and the child. In the age nine and fifteen surveys data on the receipt of private health insurance is only asked for the sample child. Thus, we assume that mothers who report being covered by health insurance but who do not receive Medicaid (determined as described above) receive private health insurance. As previously mentioned, one of the most significant ways in which this chapter differs from Garfinkel and Zilanawala (2015) is the valuation of employer provided health insurance.

Garfinkel and Zilanawala estimate the value of private insurance using age-adjusted national averages of the per capita value of employer provided health insurance. In the current chapter, we determine the cost of employer provided health insurance by subtracting the average annual worker's contribution by state from the average annual premium per state for both single and family coverage (Claxton et al., 2016; Kaiser Family Foundation, 2019). We use family coverage values if both the mother and children report receipt of employer provided insurance family coverage values. Among households in which the child is reported to receive employer provided insurance and the mother does not, the valuation differs slightly. First, the total value of average annual premiums for family coverage is used as the worker contributing (assumed to be the non-co-residing father) is not in the household. However, part of the family premium provides coverage to the non-residential worker, not the children. We assume that the proportion of the average family coverage premium attributed to the children's insurance is similar to the cost of Medicaid for both an adult and child in relation to the cost of Medicaid

per child.<sup>7</sup> The value of average family coverage premiums is then multiplied by the estimated Medicaid proportion to determine the value of the benefit.

### **17.3.2.3 Tax credits and tax subsidy transfers**

The tax credits received by households are estimated using the NBER's TAXSIM version 9.2. Tax credits received under federal and state tax laws include: the EITC, the child care tax credit, and the child tax credit. TAXSIM uses the mother's reported marital status, earnings, and number of dependents to make these estimates. This also differs from estimates used by Garfinkel and Zilanawala (2015) that primarily relied on average tax savings based on income class to estimate tax credits.

#### *Homeownership tax subsidy*

The first step in estimating the homeownership tax subsidy is to determine whether the mother reports owning her own home or living in a house or living in a condo owned by another family member. Mothers who report that she has not moved since the past interview are assumed to have the same homeownership status as the previous wave, or the most recent wave available. Next, mortgage values are determined based on the mother's response to: "what are your/their monthly mortgage payments? Please include taxes and any insurance payments that may be included in the monthly payments." Reported values from previous waves are used if the respondent has not moved since the prior wave. Monthly mortgage payments are then multiplied by 12 to determine annual mortgage payments.

Mortgage payments typically include principal, interest, property taxes, and insurance premiums (Internal Revenue Service, 2015). To determine the amount of the monthly mortgage which goes towards principal and interest we first subtract the property tax from the annual mortgage payment. Annual Property Tax values are determined using the mother's report of home value at each wave. The home value is then multiplied with an assumed tax rate of 0.011, an average of the state mean property tax rate in 2015 (Tax Foundation, 2015). Next, the amount which goes towards interest and principal is estimated. Assuming a 30-year mortgage and an average interest rate of 4.5 percent, an estimated 45 percent of the total amount paid will go towards interest. Annual mortgage payments are multiplied by 0.45 to determine annual interest. Lastly, while NBER's TAXSIM does not provide a direct amount for the homeownership tax subsidy, it is determined by estimating federal and state tax liabilities both with and without property taxes and annual mortgage interest. The difference in liabilities is assumed to be the homeownership tax subsidy.

#### *Taxes*

Tax liabilities are imputed using estimates from Garfinkel and Zilanawala (2015), which are derived from Garfinkel et al. (2010) and the mean incomes of married and fragile families.

Thus, the tax rate for fragile families is estimated at 30 percent and 27 percent among married families. According to Garfinkel and Zilanawala (2015, p. 214), "While the estimates are crude, the fact that average tax rate is so close to proportional across the entire income distribution means that any errors will be slight."

### **17.3.3 Missing Data and Multiple Imputation**

Bias due to attrition and non-response were a concern when conducting this study, as is often the case when working with panel data. Multiple Imputation (MI), which replaces missing information with predictions based on observed data, was used to address attrition and other forms of missing data. MI was implemented using Stata's Multiple Imputation by Chained Equations (MICE) series of commands. The multiply imputed data were then processed through NBER's TAXSIM to estimate the value of tax credit and tax subsidy transfers outlined in the previous section.

## **17.4 ANALYSIS**

Descriptive analyses document the full incomes of the different types of families into which children are born. The next section compares the receipt and dollar values of welfare state transfers in different types of families. Next, we present estimates of the extent to which welfare state transfers and the taxes required to finance them narrow the income gap between different types of families. Lastly, fixed effects models are presented to measure the effects of changes in marital status on welfare state transfers, market incomes, and full incomes. Fixed effects models were used to control for unobserved fixed differences between those who do and those do not experience family structure transitions. Models control for the number of dependent children in the household and the survey child's age.

## **17.5 RESULTS**

Table 17.1 presents data on mothers' human capital and household income. Mothers in fragile families have much lower human capital and much lower household incomes than mothers in married-parent families. Among the former, 41 percent of mothers have less than a high school diploma, 33 percent have a high school diploma or GED, and only 3 percent have a college degree. In contrast, among married parents, over a third of mothers have a college education and only 17 percent have less than a high school education. Fragile families are disproportionately from racial/ethnic minority groups. Over half are black, 28 percent are Hispanic and only about 14 percent are white. In contrast, over 40 percent of mothers in married-parent families are white, 25 percent are black and 25 percent are Hispanic. Children born into fragile families are much more likely to have a father who has been incarcerated than children born to married parents, 36 percent versus 8 percent, respectively. In stark contrast to these vast differences between married and fragile families, the average number of school age children is similar across family types.

Finally, note that within fragile families, the human capital of mothers in cohabiting-parent families is somewhat higher than the human capital of single mothers, but the two groups are more similar to each other than to married mothers.

All of the differences described above are reflected in differences in the full incomes of families. The full income of children in married-parent households is over \$80,000, or nearly double that of children in single mother households. The full income of cohabiting-parent families is in between but much closer to that of families formed by single mothers. In short,

Table 17.1 *Human capital and full incomes of mothers by relationship status at birth*

	Fragile Families	Married	Fragile Families	
			Cohabiting	Single
Mother's education less than high school	0.41	0.17	0.4	0.41
High school diploma/GED	0.33	0.20	0.33	0.33
Some college	0.23	0.29	0.23	0.22
Bachelor's degree or higher	0.03	0.35	0.03	0.03
Mother's age at child's birth	23.98 (0.09)	29.34 (0.16)	23.69 (0.13)	24.28 (0.13)
Mother's race/ethnicity	0.14	0.42	0.18	0.11
White non-Hispanic				
Black non-Hispanic	0.55	0.25	0.44	0.64
Hispanic	0.28	0.25	0.34	0.22
Other non-Hispanic	0.03	0.08	0.03	0.03
Father is ever incarcerated	0.36	0.08	0.31	0.41
Number of school age children in Household: Year 1				
Year 15	0.88 (0.02)	0.74 (0.03)	0.80 (0.03)	0.96 (0.03)
Year 1	3.20 (0.03)	3.12 (0.04)	3.24 (0.04)	3.17 (0.04)
Full income	48 056 (899)	84 318 (2 132)	53 525 (1 719)	42 959 (600)

*Note:* All variables are from baseline with the exception of full income, which was measured at year 1, and the number of school age children in the household, which is presented at years 1 and 15.

children born to parents in fragile families differ from those in married-parent families, not just because of their marital status. They are also considerably more disadvantaged.

### 17.5.1 Welfare State Transfers by Family Type

Table 17.2 presents the welfare state benefit receipts during the child's first year of life by family type. Benefits are grouped by cash and in-kind. The most common cash benefits are the two tax credits – the child tax credit and the EITC. The child tax credit is received by nearly 40 percent of fragile families and 86 percent of married-parent families. Among fragile families, nearly 60 percent receive the EITC compared to 22 percent of married-parent families. A large minority of fragile families – about 30 percent – receive TANF and a small minority – 5 percent – receive SSI. Receipt rates of TANF and SSI for married-parent families are 2 percent and 1 percent, respectively.

Receipt of in-kind benefits is widespread. Over 40 percent of fragile families receive Food Stamps, more than 80 percent receive WIC, nearly three-quarters receive Medicaid, and more than 20 percent receive public housing or housing vouchers. Married-parent families also have high rates of benefit receipt, although their benefits come primarily from employer provided benefits and tax benefits. Indeed, a striking feature of Table 17.2 is the bifurcated nature of benefit receipt for medical care and housing: fragile families are more likely to receive income-tested benefits while married parents are more likely to receive benefits through the tax system. These results reflect what Hacker (2004) has referred to as the “divided welfare state.” In health care benefits, roughly three-quarters of fragile families receive Medicaid when the sample child is age one, while nearly two-thirds of married-parent families receive employer provided health insurance. Only 1 percent of fragile families receive the federal income tax subsidy for owner occupied housing as compared to nearly 30 percent of married-parent fam-

Table 17.2 Public benefit receipt by mother’s relationship status at year 1 survey

	Fragile Families	Married	Fragile Families	
	(n = 2303–2327)	(n = 1054–1076)	Cohabiting (n = 1070–1091)	Single (n = 1220–1246)
<i>Cash benefits</i>				
Child tax credit	0.38	0.86	0.36	0.40
EITC	0.57	0.22	0.55	0.59
TANF	0.29	0.02	0.21	0.36
SSI	0.05	0.01	0.04	0.07
Other	0.04	0.04	0.03	0.04
<i>In-kind benefits</i>	0.41	0.11	0.36	0.46
<i>Food Stamps</i>				
WIC	0.81	0.43	0.78	0.84
Medicaid	0.71	0.28	0.68	0.74
Employer provided health insurance	0.21	0.67	0.23	0.20
Public housing & vouchers	0.22	0.06	0.19	0.25
Housing subsidy	0.01	0.29	0.01	0.01
Public education	0.50	0.41	0.47	0.54
ECEC Head Start	0.06	0.01	0.07	0.05
Child care subsidy	0.10	0.01	0.06	0.13
Child care tax credit	0.38	0.86	0.36	0.40

Note: Fragile families refer to non-marital births.

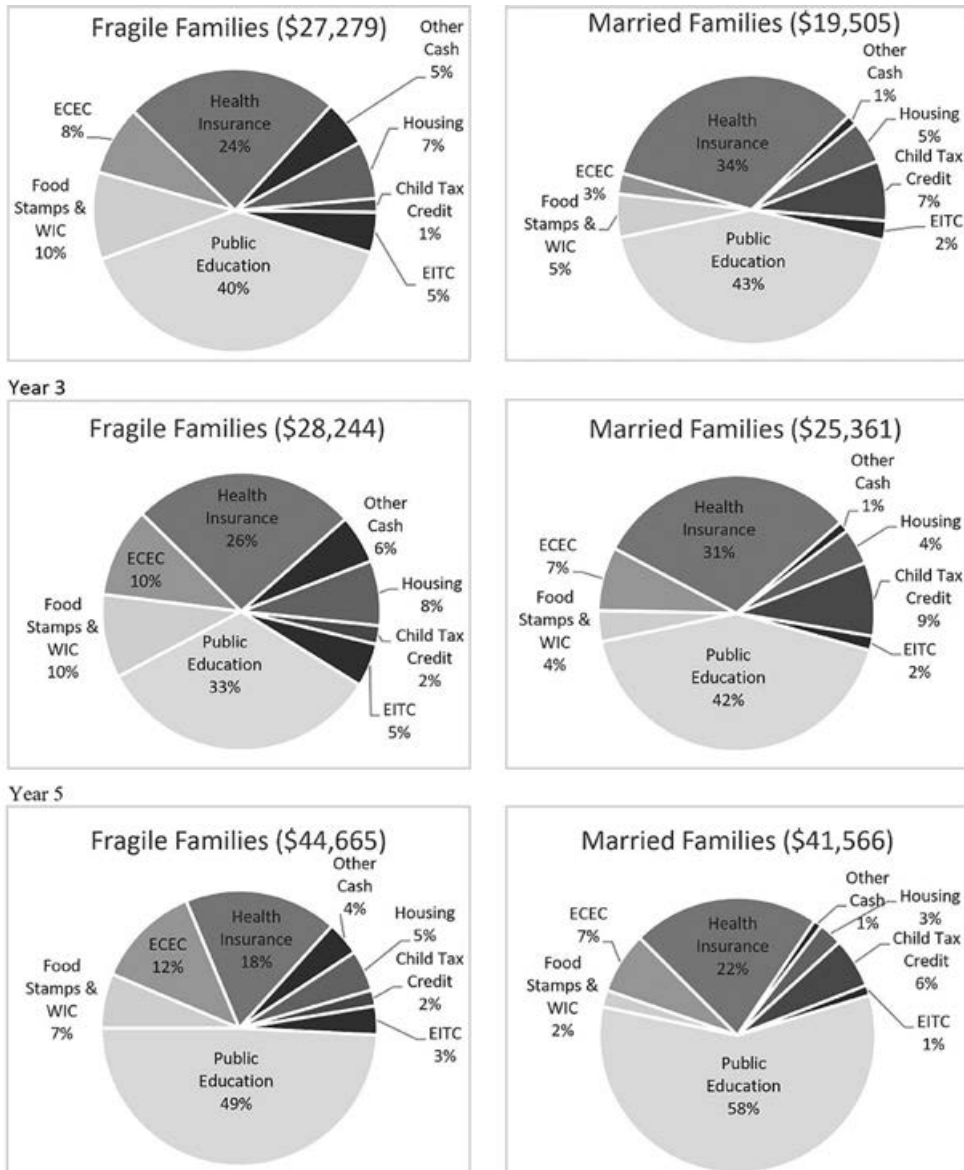
ilies. Among fragile families, nearly one in four receives public housing or housing vouchers, while the proportion among married-parent families is 6 percent. An important exception, which becomes more important as the sampled child becomes older, is public education. There may be a divided welfare state in this area as well as other areas, but the divide is not between safety nets and employer provided or tax subsidized benefits.

Single mother families have higher rates of means-tested benefit receipt than cohabiting-parent families, but the differences are small. The biggest differences are for TANF receipt and Food Stamp receipt. Most important, benefit receipt differences, just like human capital differences, between the two kinds of fragile families are quite small compared to differences between married-parent families and fragile families. For this reason, Figure 17.1 focuses on the comparison of the latter two groups.

Figure 17.1 shows the sources of household income when the child is one, three, five, nine and fifteen years old. The pies reflect the total dollar value of welfare state transfers. The slices indicate the proportion of benefits that come from: (a) child tax credit; (b) EITC; (c) Food Stamps and WIC; (d) Early Childhood Education, including Head Start, child care subsidies, the child care tax credit, pre-kindergarten; (e) Health insurance, including Medicaid, SCHIP, and employer provided health insurance; (f) Other cash transfers; (g) Housing subsidies, including public housing and vouchers and the homeowner tax deduction; and (h) K-12 public education.

Welfare state transfers change across time and differ substantially from those presented in Garfinkel and Zilanawala (2015). First, the total dollar values are much higher, particularly at age five. Whereas the GZ estimates for fragile families and married-parent families are \$22,169 and \$22,886, respectively, our estimates are \$44,665 and \$41,566. The dramatic





Notes: Fragile families include mothers with cohabiting partners, unpartnered mothers living with other adults, and unpartnered mothers living alone. Other Cash includes TANF, SSI, and Other cash assistance. Health Insurance includes employer provided health insurance and Medicaid. Housing includes public housing and vouchers and homeowner tax deductions. ECEC includes Head Start, child care subsidies, and the child tax credit.

Figure 17.1 Total public benefits for fragile families and married families at 1-, 3-, 5-, 9-, and 15-year surveys (2016 dollars)

increase is due primarily to the inclusion of public education benefits for all children in the

household. As shown in Figure 17.1, public education is the single largest welfare state transfer received at each year regardless of family type.

Garfinkel and Zilanawala (2015) also find that the total value of welfare state transfers is slightly larger for married-parent families than for fragile families. Our results differ somewhat. Welfare state transfers are slightly larger among fragile families in years 1, 3, and 5. At years 9 and 15 married families' welfare state transfers bypass the amount received by fragile families. This difference is due primarily to differences in the methodology used to estimate health care benefits. First, by including all household members, the value of Medicaid benefits, which are more likely to be received by unmarried-parent families, increased substantially. Second, as previously mentioned, the value of employer provided health insurance excludes worker contributions. Garfinkel and Zilanawala (2015) state that the size of welfare state benefits between unmarried- and married-parent families is similar because married-parent families receive larger health insurance benefits. However, due to an increase in the value of Medicaid and a decrease in the value of employer provided health insurance, the total value of the health insurance benefit is now greater among fragile families.

Consistent with Garfinkel and Zilanawala (2015), we find that welfare state benefits are lowest during the first year of a child's life, increasing by ages three and five. Our findings show a continuation of this trend, with increases at age nine and then stability through age fifteen. A striking aspect of Figure 17.1 is the tiny role of cash benefits, the majority of which come from the two tax credits that are ignored in much of the welfare state literature. As noted above, public education is the single largest element of the benefit package for both married-parent families and fragile families. However, public education benefits become significantly larger at ages nine and fifteen, once the sample child enters school. Health insurance is the second largest element in the income package, amounting to around 19 percent of benefits for both family types.

### **17.5.2 The Importance of Welfare State Benefits**

Figure 17.2 compares the market incomes and full incomes of married-parent families and fragile families when the child is age 15 and displays the role of welfare state transfers in the income packages or full incomes of both types of families. The full value of employer provided benefits is included in market income, as well as full income bars because this benefit is provided by employers as part of the total compensation package (economists agree that the costs of employer provided insurance aside from the portion subsidized in the federal income tax are passed back onto workers in the form of lower earnings). The first set of bars indicates that parents' earnings plus employer provided health insurance in fragile families are only slightly more than a quarter that in married-parent families – \$37,000 compared to \$137,000. This vast difference is attributable to the equally vast differences between the two groups in human capital and opportunities. The second set of bars present estimates of post transfer, post-tax income, or full income for the two family types and for an important subset of fragile families: single mothers. Comparing the first and second set of bars indicates that welfare state transfers and the taxes required to finance them narrow the gap in full incomes between married-parent families and fragile families. Welfare state transfers exceed taxes by \$48,000, increasing incomes from \$37,000 to \$85,000. The market incomes of married-parent families are much larger than those of fragile families, thus the former pay \$25,000 more in taxes. Despite higher

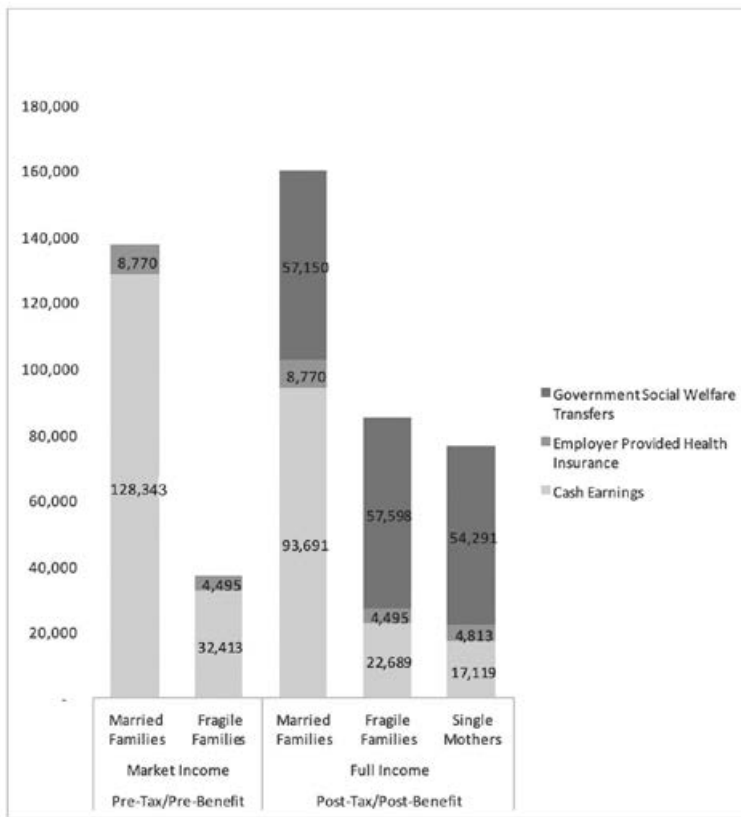


Figure 17.2 *Market and full incomes of married and fragile families (year 15)*

tax liabilities, however, welfare state transfers received by married-parent families also exceed taxes, increasing average income from \$137,000 to \$160,000. As a consequence of welfare state transfers and the taxes required to finance them, the proportion of fragile family income in relation to married family income increases from slightly more than a quarter for market income to nearly half for full income. This estimate implicitly assumes that the transfers and taxes have no behavioral effects, which is not the case, but which is a useful first approximation. The difference is only a first approximation because it reflects changes in work, earnings, savings, marriage, and private transfers that are induced by welfare state transfers and taxes (for a more detailed discussion, see Garfinkel et al. (2010, p. 63 and footnote 2).

Although the absolute value of welfare state transfers among married families and fragile families are nearly identical, married-parent families' market incomes are much larger. As a result, welfare state transfers constitute a much larger fraction of fragile families' full incomes – 68 percent as compared to only 36 percent of married-parent families' full income. In short, welfare state transfers play a critical role in the economic lives of children born into fragile families.

Table 17.3 Fixed effects regressions predicting social welfare transfers, market income, and full income by baseline relationship status and transition

	Total social welfare transfers	Market income	Full income
Married at baseline	-3 028	-53 988	-44 756
Divorce <sup>a</sup>	(1 240)*	(7 542)***	(5 572)***
Single at baseline	4 190	22 813	23 732
Marriage <sup>b</sup>	(956)***	(3 229)***	(2 663)***

Notes: All models control for number of dependent children in the household and focal child's age. \* p < 0.05, \*\*\* p < 0.001.

<sup>a</sup> Mothers who are divorced are either cohabiting or single. Mothers while married or re-married comprise the reference group.

<sup>b</sup> Mothers while cohabiting or single comprise the reference group.

### 17.5.3 The Cushioning Effect of Welfare State Transfers and Taxes

Table 17.3 presents fixed effects estimates of the impact of changes in marital status on welfare state transfers, market incomes, and full incomes. Results aim to illustrate how gains in full income from marriage among fragile families differ from the losses from divorce and how transfers and taxes cushion the changes in full income associated with changes in marital status. Models are estimated separately for families in which parents were married and unmarried at the time that the sample child was born.

Column one describes the impact of changes in marital status on welfare state transfers. We find that divorce is associated with a small, but statistically significant decrease of \$3,028 in benefits. Similarly, marriage is associated with a small, statistically significant increase in benefits (\$4,190). The results suggest that welfare state transfers do not cushion changes in income, in fact, benefits also decrease with divorce and increase with marriage.

These results are surprising and inconsistent with previous literature which have found a cushioning effect. This is likely a result of the limited number of benefits included in previous welfare state estimates, particularly the exclusion of employer provided benefits and tax benefits. Although a divorced mother may gain TANF or Medicaid eligibility, the mother may lose benefits received through the child tax credit and employer provided insurance.

Fixed effects results at first glance may appear contrary to the results of Figure 17.2, which indicate that American welfare state benefits reduce the income disparity by marital status. To understand, we must also consider the impact of the taxes required to finance the transfers. The impact of the welfare state on cushioning divorce or reducing the gains from marriage is measured as the difference in the impact of marital status changes on market incomes and full incomes. The fixed effects estimates of market and full incomes are presented in columns two and three of Table 17.3.

Mothers married at the time the survey child was born and later divorce experience an average decrease in market income of \$53,988. Full income decreases an average of \$44,756. The difference is about \$9,232, or 17 percent of the market income loss. Single mothers who later marry experience an average increase in market income of \$22,813 and a slightly larger increase in full income of \$23,732. Thus, welfare state transfers and taxes actually magnify, by 4 percent, the economic gains from marriage. The losses in market income and full income are so much larger for divorcees than the gains experienced by single mothers who marry because of the vast differences in the earnings of the husbands of mothers who were married at birth and those who were unmarried at birth. As described in Table 17.1, unmarried mothers have

much less education and are much more likely to be black and Hispanic than married mothers. When the unmarried mothers marry, they marry husbands with education and race/ethnic characteristics similar to their own.

## 17.6 DISCUSSION

This study contributes to literatures on income packaging, inequality, and welfare states by including the full value of in-kind transfers and taxes in the full income package, by estimating the full incomes for different family types, and by including all dependent children in the family. Our analyses confirm the bifurcated nature of welfare state transfers by income and family type, especially in health insurance and housing. While the poor and most fragile families receive income-tested health insurance and housing benefits, middle and upper income, mostly married-parent families receive generous employer provided health benefits and tax subsidized homeownership benefits. US welfare state transfers to families with children in the US are paid in-kind or in the form of services rather than cash transfers. Expenditures on public education stand out in our analysis. By the time the sampled child is 15 years old, they constitute close to two-thirds of all welfare state transfers to families with children.

Welfare state transfers play an important role in the economic wellbeing of all families, particularly fragile families. About one-third of the full income of married families comes from welfare state transfers. Over two-thirds of fragile families' full incomes come from welfare state transfers.

Total benefits received by married and unmarried families with children are nearly equal, with unmarried families receiving benefits that are somewhat greater than those received by married-parent families until year 9 at which time the roles reverse. Because the transfers are nearly equal and relatively large they reduce full income inequality as compared to market income inequality, which is highly unequally distributed across family type. The difference in income between married-parent families and fragile families decreases from around four to one to two to one.

These findings raise several questions. Is the heavy reliance on in-kind transfers in the American welfare state optimal, especially for fragile families? Are poor children likely to benefit more from an additional \$1,000 in health or education expenditures or an additional \$1,000 in their family's income? What are the costs of the bifurcation in the cash and health insurance portions of the American welfare state?

This study is not without limitations. First, though under-reporting of income-tested transfer benefits has been increasing and is estimated to be 33 percent for Food Stamps and 28 percent for the EITC (Meyer et al., 2009; Wheaton, 2007), we do not attempt to correct for under-reporting of transfer benefits. Second, we assume homogeneous quality of in-kind benefits across family structure. Third, our estimates of the value of employer provided health insurance and Medicaid are crude and not quite consistent. Finally, we have not examined the robustness of our conclusions to different valuations of in-kind benefits.

Future research should examine the extent to which our conclusions are robust to different valuations of in-kind benefits, to corrections for under-reporting and data on within-program treatment by marital status. This study suggests that more research is needed on family income packages, poverty, and inequality that considers in-kind benefits as well as taxes.

## NOTES

1. The sample is limited to custodial mothers.
2. A number of respondents report adults other than themselves and their partner living in the household, such as housemates and grandparents. In these instances, total household income is an accumulation of all adults' income. Thus, the above estimation of new partners' earnings is only done if the only adults reported to be living in the household are the mother and her partner. The remaining new partners' earnings are estimated through multiple imputation. This approach further ignores the potential existence of interest, dividend, or rental income included within the reported total household income. FFCWS does not ask about these sources of income. However, these sources of income are not relevant to the vast majority of fragile families, which make up the vast majority of those with new partners.
3. The Census Bureau provides K-12 per pupil estimates for 2002–10 and 2014. NCES per pupil estimates are used for years 1998–2001, 2015, and 2016.
4. Pre-kindergarten benefits are only estimated for the sample child.
5. Kaiser Family Foundation estimates for average Medicaid spending per enrollee are available by state for FY2011. To estimate the average value of per capita spending per adult and child in the years leading up to 2011, we use Kaiser Family Foundation estimates for average growth in annual Medicaid spending per state. To estimate the value of Medicaid spending per adult and child in the years after 2011, we apply Kaiser Family Foundation average yearly growth in Medicaid spending (Young et al., 2015).
6. To ensure that Medicaid estimates are comparable to employer provided insurance estimates, we assume that families in which the mother and sample child receive Medicaid consist of one adult and 2.4 children.
7. This relationship differs by state and year. However, the cost of Medicaid per child is between 30 and 50 percent of the cost of Medicaid for both an adult and child.

## REFERENCES

- Barr, N.A. (1993). *The Economics of the Welfare State*. Stanford, CA: Stanford University Press.
- Claxton, G., Rae, M., Long, M., Damico, A., and Sawyer, B. (2016). Employer health benefits. Kaiser Family Foundation. <http://files.kff.org/attachment/Report-Employer-Health-Benefits-2016-Annual-Survey> (accessed 20 February 2020).
- Esping-Andersen, G. (1990). *The Three Worlds of Welfare Capitalism*. Cambridge: Polity Press.
- Garfinkel, I. and Zilanawala (2015). Fragile families in the American welfare state. *Children and Youth Services Review*, **51**(1), 210–21.
- Garfinkel, I., Rainwater, L., and Smeeding, T.M. (2006). A re-examination of welfare states and inequality in rich nations: How in-kind transfers and indirect taxes change the story. *Journal of Policy Analysis and Management*, **25**(4), 897–919.
- Garfinkel, I., Rainwater, L., and Smeeding, T. (2010). *Wealth & Welfare States: Is America a Laggard or Leader?* New York: Oxford University Press.
- Hacker, J. (2002). *The Divided Welfare State*. Cambridge: Cambridge University Press.
- Hacker, J.S. (2004). Dismantling the health care state? Political institutions, public policies and the comparative politics of health reform. *British Journal of Political Science*, **34**, 693–724.
- Head Start Bureau (2016). Head Start Program Fact Sheet: Fiscal Year 2016. <https://eclkc.ohs.acf.hhs.gov/about-us/article/head-start-program-facts-fiscal-year-2016> (accessed 23 February 2020).

- Howard, C. (2007). *The Welfare State Nobody Knows: Debunking Myths about US Social Policy*. Princeton, NJ: Princeton University Press.
- Internal Revenue Service (2015). Publication 530: Tax information for homeowners. <https://www.irs.gov/pub/irs-prior/p530--2015.pdf> (accessed 20 February 2020).
- Kaiser Family Foundation (2019). Premiums and worker contributions among employer-sponsored coverage, 1999–2019. <https://www.kff.org/interactive/premiums-and-worker-contributions-among-workers-covered-by-employer-sponsored-coverage-1999-2019/> (accessed 20 February 2020).
- Lampman, R. (1978). *Labor Supply and Social Welfare Benefits in the United States*. Urbana-Champaign, IL: University of Illinois.
- Meyer, B.D., Mok, W.K., and Sullivan, J.X. (2009). The under-reporting of transfers in household surveys: Its nature and consequences. Working Paper No. w15181, National Bureau of Economic Research.
- NACCRRRA (National Association of Child Care Resource and Referral Agencies) (2008). Child Care in America: 2008 State Fact Sheets. <http://www.naccrra.org/publications/naccrra-annual-reports/2008/10/2008-naccrra-annual-report> (accessed 15 October 2018).
- NCES (National Center for Education Statistics) (2010). Current expenditure per pupil in average daily attendance in public elementary and secondary schools, by state. [https://nces.ed.gov/programs/digest/d10/tables/dt10\\_194.asp](https://nces.ed.gov/programs/digest/d10/tables/dt10_194.asp) (accessed 23 February 2010).
- National Institute for Early Education Research (n.d.). Annual state Pre-K reports: State preschool yearbooks. <http://nieer.org/state-preschool-yearbooks> (accessed 23 February 2020).
- Reichman, N.E., Teitler, J.O., Garfinkel, I., and McLanahan, S.S. (2001). Fragile families: Sample and design. *Children and Youth Services Review*, **23**(4), 303–26.
- Rice, D. (2010). *President's Budget Would Strengthen Housing Voucher Program*. Washington, DC: Center for Budget and Policy Priorities.
- Smeeding, T.M. (1982). *Alternative Methods for Valuing Selected In-Kind Transfer Benefits and Measuring Their Effect on Poverty*. US Department of Commerce, Bureau of the Census.
- Tax Foundation (2015). How high are property taxes in your state? <https://taxfoundation.org/how-high-are-property-taxes-your-state/> (accessed 23 February 2020).
- United States Department of Agriculture, Food and Nutrition Service (n.d.). <http://www.fns.usda.gov/pd/wic-program> (accessed 23 February 2020).
- US Census Bureau (2004). Public education finances: 2002. <https://www2.census.gov/govs/school/02f33pub.pdf> (accessed 23 February 2020).
- US Census Bureau (2005). Public education finances: 2003. <https://www2.census.gov/govs/school/03f33pub.pdf> (accessed 23 February 2020).
- US Census Bureau (2006). Public education finances: 2004. <https://www2.census.gov/govs/school/04f33pub.pdf> (accessed 23 February 2020).
- US Census Bureau (2007). Public education finances: 2005. <https://www2.census.gov/govs/school/05f33pub.pdf> (accessed 23 February 2020).
- US Census Bureau (2008). Public education finances: 2006. <https://www2.census.gov/govs/school/06f33pub.pdf> (accessed 23 February 2020).
- US Census Bureau (2009). Public education finances: 2007. <https://www.census.gov/content/dam/Census/library/publications/2009/econ/07f33pub.pdf> (accessed 23 February 2020).
- US Census Bureau (2010). Public education finances: 2008. <https://www.census.gov/content/dam/Census/library/publications/2010/econ/08f33pub.pdf> (accessed 23 February 2020).
- US Census Bureau (2011). Public education finances: 2009. <https://www.census.gov/prod/2011pubs/g09-aspf.pdf> (accessed 23 February 2020).
- US Census Bureau (2012a). *The 2012 Statistical Abstract: Table 567. Temporary Assistance for Needy Families (TANF) – Expenditures by State: 2000 to 2009*. Washington, DC: US Census Bureau.
- US Census Bureau (2012b). Public education finances: 2010. <https://www.census.gov/content/dam/Census/library/publications/2012/econ/g10-aspf.pdf> (accessed 23 February 2020).

- US Census Bureau (2016). Public education finances: 2014. <https://www2.census.gov/govs/school/14f33pub.pdf> (accessed 23 February 2020).
- US Department of Housing and Urban Development (2017). Fair market rents. [https://www.huduser.gov/portal/datasets/fmr.html#2018\\_data](https://www.huduser.gov/portal/datasets/fmr.html#2018_data) (accessed 23 February 2020).
- Wheaton, L. (2007). Underreporting of means-tested transfer programs in the CPS and SIPP. *2007 Proceedings of the American Statistical Association*, Social Statistics Section.
- Wilson, K., Lambright, K., and Smeeding, T. (2006). School finance, equivalent educational expenditure, and the income distribution: Equal dollars or equal chances for success? *Education Finance and Policy*, **1**(4), 396–424.
- Young, K., Rudowitz, R., and Garfield, R. (2015). Medicaid per enrollee spending: Variation across states. Kaiser Family Foundation. <http://files.kff.org/attachment/issue-brief-medicaid-per-enrollee-spending-variation-across-states-2> (accessed 20 February 2020).



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## 18. Elder care and the role of paid leave policy

*Soohyun Kim and Jane Waldfogel*

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### 18.1 WHAT IS ELDER CARE AND WHY IS PAID LEAVE FOR ELDER CARE IMPORTANT?

Elder care is becoming an increasingly critical policy issue in the US as population aging accelerates. The country has remained younger than comparable countries due to immigration and fertility. However, aging baby boomers in the US will propel the same demographic challenge the developed countries in Europe and East Asia are facing. By 2030, when all the baby boomers turn age 65 or over, the number of older adults is expected to be 84 million, accounting for over 20 percent of the total population (Ortman et al., 2014). Physical, mental, and cognitive decline in old age limits independent living and dignity of individuals.

Elder care covers the whole gamut of services and support that help older adults who are unable to perform everyday activities on their own or cannot be left alone (Osterman, 2017). Elder care activities range from basic day-to-day tasks (for example, shopping, transportation, and housework), personal care (such as bathing or dressing) to complex medical and nursing tasks (for example, injections, tube feeding, and catheter and colostomy care) (NAC and AARP, 2015). The intensity of care varies by the health conditions of an older adult receiving care. However controversial the use of the terms are, elder care can be divided into informal care provided by family members usually without pay and formal care provided by paid health and social service professionals or home care aides (National Academies of Sciences, Engineering, and Medicine, 2016). Family caregivers are estimated to number 41.3 million (US Bureau of Labor Statistics, 2017a) and the amount of care they provide accounts for the lion's share of elder care provided in the country.

Family caregiving carries considerable weight not only because of its massive scale but also because of the preference of care recipients. The majority of older adults want to age in their own home and avoid institutional care as long as possible (Osterman, 2017; Stone, 2015). This wish is backed by the deinstitutionalization trend that started in the 1980s. Consequently, institutional care use among those who are 65 or over dropped by 37 percent over the two decades between 1984 and 2004 (Stone, 2015). Older adults also have high expectation for receiving care from family members when it is needed. An AARP report shows that nearly 70 percent of Americans believe that their families will be available when they need help with personal care or daily activities (AARP Public Policy Institute, 2013). Although family caregiving continues when an older adult is admitted to a nursing home, the care commitment to an older adult in an institution is lower than that to an older adult in the community.

Relative to the growing demand, the supply of family caregiving is expected to decrease. The number of spousal and adult child caregivers per disabled older person has dropped between 1982 and 2012 (Janus and Doty, 2018). The growth in women's labor force participation is a contributing factor. The proportion of women age 16 or over in the labor force increased from 32.7 percent in 1948 to 56.8 percent in 2016 (US Bureau of Labor Statistics, 2017b). The growth in women's labor force participation has been particularly pronounced

among women older than 50 in full-time jobs. This trend of women working longer is expected to continue in the future (Goldin and Katz, 2018). Declining fertility and increasing childlessness also contribute to the dwindling supply of family caregiving. In 2017, the general fertility rate and the number of births reached a new low since 1987 (Martin et al., 2018). By 2035, when all the baby boomers are at retirement age, older people will outnumber children under age 18 (US Census Bureau, 2018a). Higher divorce rates among baby boomers are also a factor. Consequently, retiring baby boomers will be less likely than their former cohorts to receive care from a spouse or adult child living nearby (Ryan et al., 2012). The gap between the demand and supply for family caregiving will continue to widen over time.

Understanding the discrepancy between the demand and supply of family caregiving is very important from a policy perspective (see also Chapter 13 in this volume on the impact of combining work with care provision). The estimated size of the population affected by the issue of family caregiving is enormous. Based on data from the 2015 American Community Survey (ACS), by 2030 there will be nearly 25 million older people with limitations and approximately 22 million friends and family who can help them (Osterman, 2017). The sum of potential care recipients and caregivers amounts to nearly 13 percent of the projected national population in 2030 (authors' calculation, based on data in US Census Bureau, 2018b). The AARP estimates that unpaid services provided by family caregivers amounted to approximately \$470 billion in 2013 (AARP Public Policy Institute, 2015). The dollar amount exceeds the 449 billion dollars of total Medicaid expenditures the same year. In a family caregiver's view, providing caregiving for an older relative is a more affordable option than purchasing services. The majority of family caregivers offer unpaid elder care out of love. But many of them provide care because they cannot afford paid professional services. The opportunity costs of providing care for an older relative are huge, yet doing this on their own is more economical than replacing themselves with skilled home health care (Chari et al., 2015). Public expenditures on formal elder care will be required to make up for a shortage of family caregiving unless society responds to the immediate call for change in policy settings surrounding the elder care issue.

Paid family leave is crucial to family caregivers' delicate balance of work and care. In 2015–16, nearly two in three unpaid elder care providers who are age 15 or over were employed and 73 percent were working full time (US Bureau of Labor Statistics, 2017a). Research on paid parental leave shows that paid leave helps working parents in the labor force better combine the responsibilities of work and care and avoid the negative impacts of caregiving on labor market outcomes. These findings might not translate easily to working spouses or adult children providing care for older relatives because elder care and child care are disparate in terms of care recipient, duration, activities, and care settings. However, we have only limited evidence on how paid family leave works for informal caregivers. This chapter aims to review the latest findings on elder caregiving in the absence of paid leave policy and offer recommendations for policy reform as well as implications for future research.

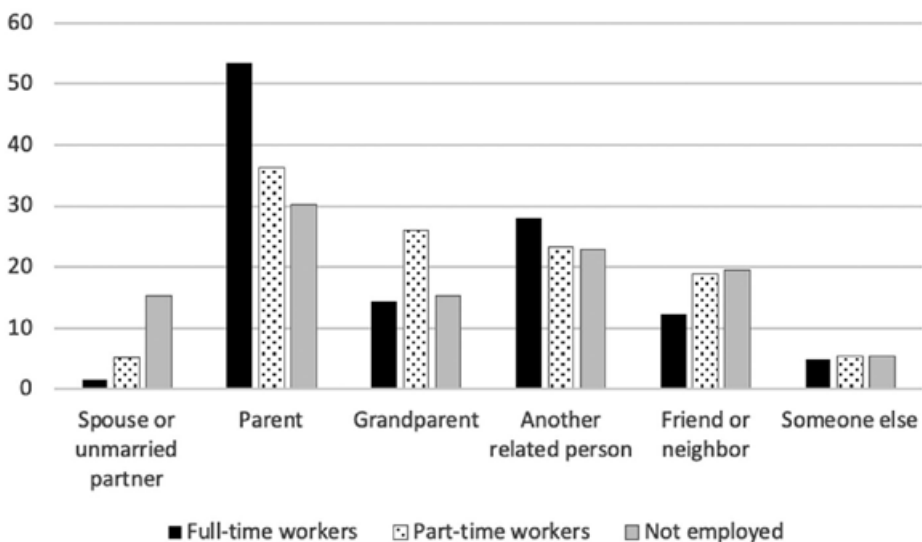
## 18.2 WHO ARE THE CAREGIVERS?

Who is providing informal care for older people and how do they provide care? According to the 2015–16 American Time Use Survey (ATUS), about 16 percent of people age 15 or over had unpaid elder care experience in the last three months (US Bureau of Labor Statistics, 2017a). People who are 45 or over account for approximately 70 percent of informal caregiv-

ers and those who are aged between 54 and 64 make up 24 percent. The majority (61 percent) of the informal caregivers have a job, most working full time. Women are more likely than men to be involved in elder care. The average level of education of the caregivers is quite high: two in three informal caregivers age 25 or over have at least some college qualification. Nearly 20 percent of them are in the “sandwich generation” – with children under age 18 in the household. Unpaid elder care providers are most often married or cohabiting (63 percent).

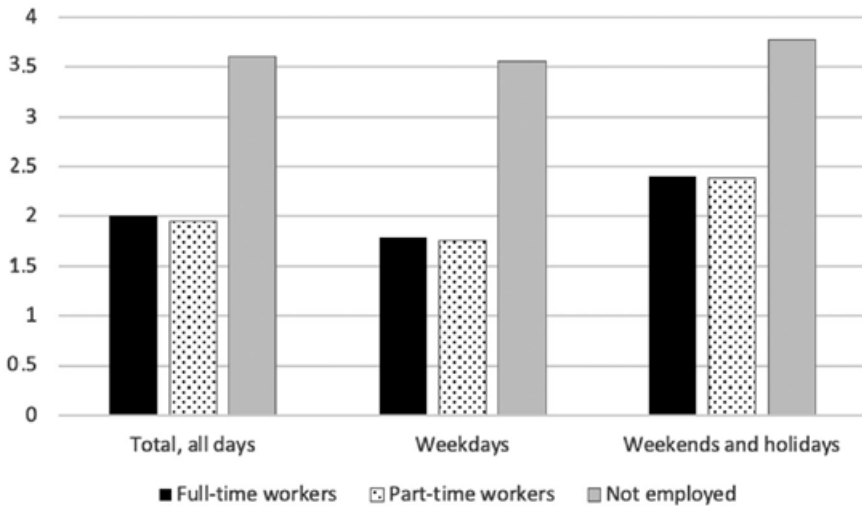
The majority of the unpaid elder care providers are caring for one older person, but approximately 30 percent care for more than two older people. Caring for a parent is most common followed by caring for another related person. Caregivers under age 65 are most likely to care for a parent while older caregivers who are 65 or over are most likely to care for a spouse; 62 percent of caregivers provide care once a week or more; providing care several times a week is the most common frequency. For nearly half of the caregivers, elder care ends within two years, but for 14 percent of them, caregiving lasts for ten years or more. Most caregivers provide care for older people who are living separately on their own. Elder care activities for an adult residing in the household are generally more intense than caregiving for a non-household adult, and are concentrated on providing physical or medical care, while care activities for a non-household adult are more evenly distributed between caring and helping, with a little more time spent on helping such as with household chores, house maintenance or repair, or picking up and dropping off the care recipient.

Providing elder care and working for an employer is more common among men (67 percent) than women (57 percent) although the likelihood of providing care is higher for women. For both women and men, many employed caregivers are full-time workers. Figure 18.1 shows that over half of caregivers working full time provide care for a parent. Caregivers



Note: Averages combined for the 2015 and 2016 ATUS.  
 Source: US Bureau of Labor Statistics (2017a). Table 3.

Figure 18.1 Relationship to care recipient by employment status



Note: Averages combined for the 2015 and 2016 ATUS.  
 Source: US Bureau of Labor Statistics (2017a). Table 4.

Figure 18.2 Time spent in care on days elder care was provided

working part time are also most likely to provide care for a parent, followed by a grandparent. Caregivers working full time provide more care during the weekends and holidays than weekdays, making up for lost time when they are at work (Figure 18.2). Therefore, the time spent in care on a given day is almost identical between caregivers working full time and part time.

Another survey provides insights into the difficulties that some working caregivers have in managing work and care at the same time (NAC and AARP, 2015). One in four employed family caregivers are under a high burden of care, helping an older relative with at least one activity of daily living (for example, bathing, dressing, or using the toilet) for more than 20 hours a week. Nearly 40 percent find their caregiving situation highly emotionally stressful and 60 percent report that caregiving has affected their work. Nearly half of them make workplace accommodations such as going in late, leaving early, or take time off from work, while 13 percent reduce their workload and 17 percent leave the labor market related to caregiving. High demand for providing care (39 percent) and the lack of flexible work hours (34 percent) are the most common reasons for giving up work entirely. The influence on work from caregiving is larger for those who provide care for more than 20 hours than for their counterparts who spend fewer hours on caregiving. These intensive caregivers are more likely to take a leave of absence (23 percent) or withdraw from the labor market permanently (19 percent), suggesting a greater need for leave among those who provide intensive care.

Alternative support outside the family may be considered a luxury for some working caregivers. Paid help with daily living activities is not an option for two in three employed caregivers because the paid supportive services are either not affordable or not available. Employer

awareness and support for elder care providers are also limited. Supervisor awareness of the caregiver's role is more likely when the burden of care is high. But 45 percent report that their supervisors do not know about their caregiving situation or they are not sure. Some family caregivers experience discrimination at work such as firing or warnings about performance or attendance; 53 percent of family caregivers are not offered flexible hours or paid sick leave. Access to paid family leave is even lower: only 33 percent are provided with paid time off. The workplace benefits for caregiving are more accessible to caregivers with a college degree and earning a high income than to less-educated caregivers with a lower income.

### 18.3 THE CURRENT POLICY FRAMEWORK IN THE US

Public policy on paid leave for elder care is not provided on a national scale. The federal Family and Medical Leave Act (FMLA) allows job-protected leave without pay up to 12 weeks per year to care for a newborn or adopted child, a seriously ill family member, or for the worker's own serious illness. In order to be eligible, workers must have worked for an employer with 50 or more employees for at least 12 months and for a minimum of 1,250 hours in the previous year. These strict eligibility requirements restrict access to leave policy for employees. According to the 2012 FMLA survey, employees who satisfied all three criteria (firm size, job tenure, and hours worked) constituted just over half of the employees in the survey (Klerman et al., 2014). At the state level, four states (California, New Jersey, Rhode Island, and New York) have their own paid family leave programs in effect as of 2019, and three states (Washington, District of Columbia, and Massachusetts) have enacted legislation that will come into effect in 2020–21. The state paid family leave policies in the first four states built on the state disability insurance programs that provide some wage replacement during periods of absence from work caused by temporary disability or injury. Those in the three later jurisdictions also apply a social insurance model (but in the absence of a pre-existing disability insurance program). Table 18.1 summarizes the features of the state paid family leave policies.

In other states without a state paid family leave law, whether to offer pay during leave, how much, and for how long are solely dependent on employer policy. The share of workers who receive paid family leave from their employer is low. Only 17 percent of all civilian workers had access to explicit paid family leave in March 2018 (US Department of Labor, 2018). In the 2011 ATUS Leave Module, about 27 percent of employees have access to paid leave for elder care (Bartel et al., 2019). Taking into account those who are able to take leave to care for a seriously ill family member using other forms of paid time off, it is estimated that roughly 40 percent of employees are able to take paid family leave.

The restricted access to paid family leave itself is troubling, but also troubling is the inequality in access by worker and workplace characteristics. The 2018 National Compensation Survey (NCS) shows that workers in management, business, and financial occupations had the highest likelihood of accessing paid family leave (29 percent) whereas workers in production, transportation, and material moving occupations had the lowest (8 percent). Full-time workers were three times more likely than part-time workers to have access to paid family leave. Access to paid family leave was most common for the top ten percent earners (30 percent) and least common for the lowest ten percent earners (5 percent), with leave likelihood for other earners falling between these two extremes in a steep gradient. The sharp divide in access to paid leave was similar when one compared workers in a large establishment (25 percent)

Table 18.1 State paid family leave in the US in 2018

State	Effective date	Maximum benefit (USD/week)	Maximum duration (week)	Job protection	Eligibility criteria
California	2004	1 216.00	6	No	Earned at least \$300 in taxable income over the base period
New Jersey	2009	637.00	6 (extending to 12 in 2020)	No	Earned at least \$169 weekly for 20 weeks or \$8,500 annually in the year before taking leave
Rhode Island	2014	831.00	4	Yes	Earned at least \$12,120 in Rhode Island and paid into the insurance fund in the base period
New York	2018	652.86	8 (extending to 12 by 2021)	Yes	Employed full time for 26 weeks or part time for 175 days
Washington	January 2020	N/A	12	Yes	Worked at least 820 hours during the qualifying period
District of Columbia	July 2020	N/A	8 for parental leave; 6 for family leave	No	Has been a covered employee for at least one week in the year preceding the qualifying event for leave
Massachusetts	January 2021	N/A	12	Yes	Received wages during the base period that total 30 times the weekly unemployment benefit rate

Source: Rossin-Slater and Uniat (2019).

and those in a small establishment (12 percent). On top of that, a recent study reveals that access to and use of paid family leave are particularly limited for Hispanics as compared to non-Hispanic Whites even after controlling for demographics and employment characteristics (Bartel et al., 2019).

In the previous section, we learned that the need for providing care is high for elder care providers who cannot afford paid assistance and that those giving high levels of care are likely to quit their jobs when their employers do not offer flexible time arrangements. To put it differently, elder care providers working in low-paying jobs without the ability to adjust their time are most likely to be in need of paid family leave. But under the current policy situation, a paid family leave policy is offered to a select group of people with exactly the opposite profile to those who need the policy the most, as a premium on their high-paying professional jobs. The only alternative for many unlucky working caregivers is unpaid family leave, which in most cases they cannot afford to take. Concern over lost earnings during leave is a real barrier for most employed elder care providers, although the health condition of a family member is the second most common reason for needing leave, after their own illness (Klerman et al., 2014).

Thus, the current family leave policy framework works in favor of workers in an advantaged position in the labor market and falls short of the majority of employed elder care providers' expectations. Neither paid leave with unequal access nor unpaid leave with broader access addresses the unmet needs for leave of working caregivers. The importance of providing paid leave particularly for elder care providers cannot be overemphasized because of the damaging impacts of caregiving without proper leave support, for example, low job security, stigma, or discrimination (AARP Public Policy Institute, 2015).

## 18.4 CONSEQUENCES OF ELDER CAREGIVING

### 18.4.1 Caregiver Labor Market Outcomes

The theory of family decision on allocation of time predicts that unpaid family caregiving will reduce the time in paid work. The latest research evidence of elder care generally agrees on a negative relationship between caregiving and paid work for women (see reviews by Lilly et al., 2007 and Bauer and Sousa-Poza, 2015). The estimates indicate that women caregivers reduce their hours of work by 2.19 to 3 hours a week for light to medium caregiving and 3 to 10 hours a week for intensive caregiving (Jacobs et al., 2015; Van Houtven et al., 2013). However, it appears that men's hours worked are not affected by any care or intensity of care.

The impact of caregiving on women's early retirement is also consistently found. Some studies found that the relative risk of retirement was significant for women caregivers for a spouse whereas it was not the case for caregivers for other relatives (Dentinger and Clarkberg, 2002). Other studies found that caregiving for a parent also leads to women's retirement especially when the care burden is high (Jacobs et al., 2017; Skira, 2015; Van Houtven et al., 2013). Intense caregiving for an older parent over 20 hours per week increases the probability of retirement of the caregivers by one to three percentage points. Once out of the labor market, the probability of women caregivers returning to work is low, particularly for spousal caregivers (Gonzales et al., 2017; Jacobs et al., 2017; Skira, 2015).

### 18.4.2 Caregiver Health

Caregiving can be both rewarding and exhausting depending on the caregiving situation and the level of commitment. According to the 2011 National Survey of Caregiving, nearly one in ten caregivers report substantial negative aspects of caregiving like work overload, exhaustion, and insufficient time for oneself. More than 25 percent answer that caregiving causes emotional difficulty. Usually, greater caregiving commitment is related to considerable negative effects (Spillman et al., 2014). An extensive literature dating from the 1960s has shown that care burden (health conditions of a care recipient and time in care), care relationship, and social support are related to caregivers' depression and anxiety and decreased wellbeing (most recently reviewed by Bauer and Sousa-Poza, 2015). In general, the mental health of spousal caregivers is more affected by caregiving than parental caregivers. The latest findings show that the phase of caregiving also matters. Initiating elder care is associated with a higher risk of depressive and anxious symptoms compared to continuing care or terminating care, particularly for women spousal caregivers (Cannuscio et al., 2002; Dunkle et al., 2014). For parental caregivers, continued care increases depressive symptoms for both married women and men while initiating care leaves persistent depressive symptoms for married women only (Coe and Van Houtven, 2009).

The effects of elder care on the physical health of caregivers are less pronounced than those on mental health. Caregivers are more likely than non-caregivers to have poor health in subjective and objective measures (see reviews by Vitaliano et al., 2003 and Pinguart and Sørensen, 2003). In particular, caregiving is associated with increased health concerns, stress hormones, antibodies, and medication use. Relatively large physical health effects of caregiving are found among older, male, and spousal dementia caregivers who develop depressive symptoms accompanied by caregiving (Pinguart and Sørensen, 2007, 2011). Coe and Van Houtven's

(2009) reduced-form estimates show that the short-term and long-term effects of caregiving on physical health differ by caregiving phase, sex, and marital status. Initiating care affects married women's lower ratings in health and the likelihood of high blood pressure, which grow over four years of caregiving. Ongoing caregiving for two years for an older mother decreases married women's self-rated health by ten percentage points, while it increases married men's by 17 percentage points. Single men are 40 percent more likely to report a heart condition when they continue to care for their mother for two years, and this effect builds up for another two years.

### **18.4.3 Care Recipient Health, Health Care Use and Expenditures**

The negative impacts of caregiving on the work and health of caregivers are likely to influence their quality of care. Estimates from the 2011 National Health and Aging Trends Study and National Study of Caregiving suggest that poor physical and psychological health and negative work effects given high intensity of caregiving (the number, frequency, and types of tasks provided) are associated with substandard or inadequate care to older adults (Beach and Schulz, 2017). The potential impacts of caregiver burden and distress on care recipient outcomes are well described in the literature on older adults with dementia. Greater caregiver distress is associated with a higher probability of institutionalization, elder abuse, and worsening behavioral and psychological symptoms of dementia (BPSD) for care recipients with dementia (reviewed by Stall et al., 2019). These potential effects can be expanded to older adults without dementia and disability given that the prevalence of assistance provided to older adults with and without dementia and disability is very similar (Riffin et al., 2017). Also, the burden of care is linked to the characteristics of caregivers and care provision more than care recipient characteristics (Riffin et al., 2018).

At the same time, these findings suggest that older adults could avoid risks to health and institutionalization if their informal care providers are well supported to relieve them of the burden of caregiving. Indeed, the presence of family caregivers is a significant factor associated with reduced long-term care services and supports (LTSS) use and health care costs (Friedman et al., 2019). Van Houtven and Norton (2004) estimate that caregiving for an older parent reduces any formal health care use, mainly in home health care use and nursing home use. A similar effect on reduced nursing home use is reaffirmed in Charles and Sevak (2005). The decrease in the likelihood of home health care costs and skilled nursing home costs leads to a reduction in Medicare expenditures among older people without a spouse or partner (Van Houtven and Norton, 2008). Family involvement in home-based care also reduces hospital inpatient care use (emergency room use, inpatient use and days) and Medicaid hospital expenditures, according to a study of family caregivers incentivized by the Cash and Counselling Demonstration and Evaluation program (Coe et al., 2019).

### **18.4.4 Caregiver Finances**

The latest report from the Pew Research Center (2017) reveals that taking leave without receiving full pay has negative impacts on caregivers' finances. To cover lost earnings during unpaid or partially paid leave for family and medical reasons, a majority of leave-takers reduced spending (78 percent), used savings for a different purpose (50 percent), or borrowed or received money from family or friends (24 percent and 23 percent, respectively) when they



were on leave. Even those who received partial pay during time off work found it difficult to meet the necessary expenses during the leave. This issue was particularly common for those who took partially paid leave to care for a seriously ill family member. Some leave-takers had to go into debt (37 percent), delay bill payments (33 percent), and in severe cases take on public assistance (17 percent). Those with household income under \$30,000 were hit harder than the average leave-takers, showing the financial consequences of taking unpaid leave at much higher rates.

The lack of paid leave also discourages working caregivers from taking as much time off to care for an older person as they need or want or taking leave at all; 40 percent of people who took leave to care for a seriously ill family member reported that they took less time off than they needed or wanted, mostly because they could not afford the loss in earnings. This was more common among leave-takers with household income below \$75,000 than leave-takers with higher household income. Concerns over lost wages or salary were the primary reason for not taking leave – not only for those who took leave but also for those who did not take leave despite having family and medical issues.

#### **18.4.5 How Might Paid Family Leave Affect These Consequences?**

Taken together, the literature indicates that providing unpaid elder care affects the employment and health of the caregivers negatively. When these caregivers are required to perform highly demanding tasks, the likelihood of older persons having their care needs unmet is likely to increase. These findings indirectly hint at the potential changes that paid family leave may bring. As suggested in Pavalko and Henderson (2006), paid leave is likely to decrease the likelihoods of leaving the labor force and reduced work hours particularly for middle-aged women. Also, during paid time off, working caregivers could get on with their caregiving tasks, keeping their stress low. This could lessen the adverse impacts of family caregiving for both caregivers and care recipients and help them avoid costly long-term care use. While evidence on this point is limited, there is recent evidence that paid family leave in California induces a reduction in nursing home use among older persons and a decrease in Medicaid expenditures (Arora and Wolf, 2018).

### **18.5 WHAT DO OTHER COUNTRIES DO? WHAT DO WE KNOW FROM RESEARCH ABOUT THE IMPACT OF THEIR POLICIES ON KEY OUTCOMES?**

Paid leave to care for a seriously ill or elderly family member is a widespread policy practice in other developed countries. Among the 36 Organisation for Economic Co-operation and Development (OECD) countries, 27 have family leave policies for working caregivers, of which 19 countries operate the leave policy with wage replacement (OECD, 2018). Paid leave is provided in addition to 10–30 days of annual leave in 17 countries except for Israel and New Zealand, which deduct the time spent on family caregiving from the caregiver’s sick leave. The policy frame varies across the countries by its components (entitlements, duration, and replacement rates) (Table 18.2). Most countries define family members as the only eligible care recipients for the paid leave whereas some countries also recognize a friend or closely related person as eligible. Duration of leave varies depending on the health conditions of the

care recipient, ranging from less than two weeks to care for a family member to 12 months for a seriously ill family member. The wage replacement rate is set between 40 percent and 100 percent of the employee's earnings.

Based on the latest information available (Courtin et al., 2014; OECD, 2018), a few countries (Austria, Belgium, Germany, Italy, Luxembourg, the Netherlands, and Spain) provide both paid and unpaid leave so that caregivers can choose what works best for them. Particularly, Belgium, Germany, and the Netherlands offer a flexibility policy package of paid and unpaid leave with flexible work schedules.

The "time-credits" policy in Belgium, adopted in 2002, offers a job-protected career break for working caregivers meeting minimal work requirements. The time-credits are allowed for a minimum of three months to a maximum of one year for full-time workers, or a maximum of two years for part-time workers, to care for a sick family member. Family caregivers working less than 20 percent of a work week can also take the time-credits. The credits are granted as either time off or reduced hours. Full-time and part-time workers are paid up to two months if they choose to take leave. The benefit formula is based on age, employment history, family situation, and type of break. The time-credits count as contributions to the pension with a limit of one year.

In Germany, caregivers working for establishments with more than 15 employees are eligible to take "family care leave" with wage replacement for up to ten days at short notice to organize care arrangements for a close relative. For longer-term care needs, working caregivers can take time off work fully without pay or partially up to six months. If the current employer has more than 25 employees, the care leave can be claimed for part-time work down to 15 hours a week for up to 24 months. Caregivers who need to provide end-of-life care are entitled to additional unpaid leave for three months. The government offers the unpaid leave-takers an interest-free loan (European Commission, 2018a).

Currently, research evidence about the effects of these paid family leave programs on caregiver outcomes is scant. Research in paid family leave has been built around paid parental leave, and paid family care or elder care leave has remained peripheral to policy research until very recently. One reason for the absence of research on paid family leave for elder caregivers is the lack of comprehensive datasets on caregiver experiences, health, and costs. To date, only Australia, Canada, the UK, and the US out of the 36 OECD countries have national-level data on caregivers (OECD, 2018), but those datasets lack policy variables related to paid family leave, especially leave take-up. More research is anticipated in the future as the high-income countries become increasingly aware of the importance of collecting data on elder care providers.

## 18.6 CONCLUSIONS AND DIRECTIONS FOR FUTURE RESEARCH

The research reviewed in this chapter makes clear the growing challenges for family caregivers for older adults in the US. Many family caregivers are in the labor force nowadays, and this is particularly true of older women. However, access to employer awareness and support and in particular paid leave rights are unequally distributed among working caregivers. Even the FMLA, the only national policy supporting working caregivers (Bookman and Kimbrel, 2011), shows disparities in access and use because not everyone can afford unpaid leave. Research suggests that paid family leave could reduce the damaging effects of caregiving on

Table 18.2 *Paid family leave across OECD countries*

Country	Entitlement	Maximum duration (per year)	Payment (earnings)
Australia	For an immediate family member or household resident in need of care due to injury	10 days	100%
Austria	For a dependent relative other than children	1 week	100%
Belgium	For a seriously ill family member	12 months*	€786.78/month
	For palliative care	2 months*	€786.78/month
Canada	“At a significant risk of death” within the next 26 weeks	8 weeks*	55% for 6 weeks†
Czech Republic	For a seriously ill family member	9 days***	60%****
Estonia	For an adult family member	7 days*	80%
France	For a terminally ill family member	3 months	Unknown, up to 3 weeks
Germany	For an unexpected illness	10 days	90%
Ireland	For a close family member	3 days; up to	100%
		5 days in any 36-month period	
Israel	For a spouse or parent over age 65	6 days	100%
Italy	For a seriously ill family member (when the caregiver is the “sole caregiver”)	3 days per month; up to 2 years**	100%; up to €47,446 in 2016
Japan	When requires constant care is required for 2 weeks or longer	93 days**	40%
Netherlands	Including friends	10 days	70%
New Zealand	For a partner or dependent family member	5 days	100%
Poland	For a family member	14 days	80%
Slovak Republic	For a family member	10 days	55%†
Slovenia	For a co-resident family member	7 days*	80%
	For a seriously ill co-resident family member	Up to 6 months*	80%
Spain	For a family member	2 days*	100%
Sweden	Including “closely related” persons	100 days*	80%†

Notes: \* per episode; \*\* over the family member’s lifetime; \*\*\* no limit, consecutive maximum; \*\*\*\* up to a ceiling.

Source: European Commission (2018b) and OECD (2016, 2018).

the career and health of caregivers, elder health, and health care costs. The US is one of only eight high-income countries that provide family leave without pay although paid family leave is a standard policy supporting working caregivers in comparable economies.

Public support for paid family and medical leave is broad (Pew Research Center, 2017), and this is likely to increase as the aging population increases. The FMLA has not undergone a major revision since it was passed in 1993. However, a recent bipartisan expert group was not able to reach consensus about comprehensive paid family and medical leave (AEI-Brookings Working Group on Paid Family Leave, 2017). One of the challenges to a comprehensive approach is that the evidence base is much more developed with regard to paid parental leave than it is with regard to paid family leave or paid medical leave.

Reviewing the research on family leave, we find a critical research gap in studies documenting the effects of paid family leave on caregiver outcomes. How such a policy impacts the work, health, and caregiving of family caregivers is relatively unknown compared to how it affects working parents. Studies of California’s paid family leave policy show that paid parental leave increases the labor supply of working mothers and gender equality in leave use

between working parents, with larger effects for disadvantaged mothers (for example, Bartel et al., 2018; Rossin-Slater et al., 2013). The overall conclusions for family caregivers might be similar, but the differences in the nature of child care and elder care could result in variations in the research findings. In addition, other factors such as retirement, social security, and health care costs should be considered in studying the effects of paid family leave for older caregivers. We hope that solid future research, using representative and detailed data, will be able to answer these questions.

## REFERENCES

- AARP Public Policy Institute (2013). The aging of the baby boom and the growing care gap: A look at future declines in the availability of family caregivers. *Insight on the Issues* No. 85. Donald Redfoot, Lynn Feinberg, and Ari Houser. Washington, DC.
- AARP Public Policy Institute (2015). Valuing the invaluable: 2015 update. Susan C. Reinhard, Lynn Friss Feinberg, Rita Choula, and Ari Houser. Washington, DC. Retrieved 20 February 2020 from <http://www.aarp.org/content/dam/aarp/ppi/2015/valuing-the-invaluable-2015-update-new.pdf>.
- AEI-Brookings Working Group on Paid Family Leave (2017). *Paid Family and Medical Leave: An Issue Whose Time Has Come*. <https://doi.org/10.1057/9780230107847>
- Arora, K. and Wolf, D.A. (2018). Does paid family leave reduce nursing home use? The California experience. *Journal of Policy Analysis and Management*, **37**(1), 38–62. <https://doi.org/10.1002/pam.22038>
- Bartel, A., Rossin-Slater, M., Ruhm, C.J., Stearns, J., and Waldfogel, J. (2018). Paid family leave, fathers' leave-taking, and leave-sharing in dual-earner households. *Journal of Policy Analysis and Management*, **37**(1), 10–37. <https://doi.org/10.1002/pam.22030>
- Bartel, A., Kim, S., Nam, J., Rossin-Slater, M., Ruhm, C., and Waldfogel, J. (2019). Racial and ethnic disparities in access to and use of paid family and medical leave: Evidence from four nationally representative datasets. *Monthly Labor Review*, January. <https://doi.org/10.21916/mlr.2019.2>
- Bauer, J.M. and Sousa-Poza, A. (2015). Impacts of informal caregiving on caregiver employment, health, and family. *Journal of Population Ageing*, **8**(3), 113–45. <https://doi.org/10.1007/s12062-015-9116-0>
- Beach, S.R. and Schulz, R. (2017). Family caregiver factors associated with unmet needs for care of older adults. *Journal of the American Geriatrics Society*, **65**(3), 560–6. <https://doi.org/10.1111/jgs.14547>
- Bookman, A. and Kimbrel, D. (2011). Families and elder care in the twenty-first century. *The Future of Children*, **21**(2), 117–40.
- Cannuscio, C.C., Jones, C., Kawachi, I., Colditz, G.A., Berkman, L., and Rimm, E. (2002). Reverberations of family illness: A longitudinal assessment of informal caregiving and mental health status in the nurses' health study. *American Journal of Public Health*, **92**(8), 1305–11. <https://doi.org/10.2105/AJPH.92.8.1305>
- Chari, A.V., Engberg, J., Ray, K.N., and Mehrotra, A. (2015). The opportunity costs of informal elder-care in the United States: New estimates from the American Time Use Survey. *Health Services Research*, **50**(3), 871–82. <https://doi.org/10.1111/1475-6773.12238>
- Charles, K.K. and Sevak, P. (2005). Can family caregiving substitute for nursing home care? *Journal of Health Economics*, **24**(6), 1174–90. <https://doi.org/10.1016/j.jhealeco.2005.05.001>
- Coe, N.B. and Van Houtven, C.H. (2009). Caring for mom and neglecting yourself? The health effects of caring for an elderly parent. *Health Economics*, **18**(9), 991–1010. <https://doi.org/10.1002/hec.1512>
- Coe, N.B., Guo, J., Konetzka, R.T., and Van Houtven, C.H. (2019). What is the marginal benefit of payment-induced family care? Impact on Medicaid spending and health of care recipients. *Health Economics*, **28**(5), 678–92. <https://doi.org/10.1002/hec.3873>
- Courtin, E., Jemai, N., and Mossialos, E. (2014). Mapping support policies for informal carers across the European Union. *Health Policy*, **118**, 84–94. <https://doi.org/10.1016/j.healthpol.2014.07.013>
- Dentinger, E. and Clarkberg, M. (2002). Informal caregiving and retirement timing among men and women: Gender and caregiving relationships in late midlife. *Journal of Family Issues*, **23**(7), 857–79. <https://doi.org/10.1177/019251302236598>

- Dunkle, R.E., Feld, S., Lehning, A.J., Kim, H., Shen, H.W., and Kim, M.H. (2014). Does becoming an ADL spousal caregiver increase the caregiver's depressive symptoms? *Research on Aging*, **36**(6), 655–82. <https://doi.org/10.1177/0164027513516152>
- European Commission (2018a). *ESPN Thematic Report on Challenges in Long-Term Care: Germany*. Brussels: Thomas Gerlinger.
- European Commission (2018b). *ESPN Thematic Report on Challenges in Long-Term Care: Italy*. Brussels: Jessoula Matteo, Pavolini Emmanuele, Raitano Michele, and Marcello Natili.
- Friedman, E.M., Rodakowski, J., Schulz, R., Beach, S.R., Martsolf, G.R., and James, A.E. (2019). Do family caregivers offset healthcare costs for older adults? A mapping review on the costs of care for older adults with versus without caregivers. *The Gerontologist*, **59**(5), e535–e551. <https://doi.org/10.1093/geront/gny182>
- Goldin, C. and Katz, F.L. (2018). Women working longer: Facts and some explanations. In C. Goldin and F.L. Katz (eds), *Women Working Longer: Increased Employment at Older Ages* (pp. 11–54). Chicago, IL: University of Chicago Press.
- Gonzales, E., Lee, Y., and Brown, C. (2017). Back to work? Not everyone. Examining the longitudinal relationships between informal caregiving and paid work after formal retirement. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, **72**(3), 532–9. <https://doi.org/10.1093/geronb/gbv095>
- Jacobs, J.C., Van Houtven, C.H., Laporte, A., and Coyte, P.C. (2015). Baby Boomer caregivers in the workforce: Do they fare better or worse than their predecessors? *Journal of the Economics of Ageing*, **6**, 89–101. <https://doi.org/10.1016/j.jeoa.2015.05.001>
- Jacobs, J.C., Van Houtven, C.H., Laporte, A., and Coyte, P.C. (2017). The impact of informal caregiving intensity on women's retirement in the United States. *Journal of Population Ageing*, **10**(2), 159–80. <https://doi.org/10.1007/s12062-016-9154-2>
- Janus, A.L. and Doty, P. (2018). Trends in informal care for disabled older Americans, 1982–2012. *The Gerontologist*, **58**(5), 863–71. <https://doi.org/10.1093/geront/gnx076>
- Klerman, J.A., Daley, K., and Pozniak, A. (2014). *Family and Medical Leave in 2012: Technical Report*. Retrieved 20 February 2020 from <https://www.dol.gov/asp/evaluation/fmla/FMLA-2012-Technical-Report.pdf>.
- Lilly, M.B., Laporte, A., and Coyte, P.C. (2007). Labor market work and home care's unpaid caregivers: A systematic review of labor force participation rates, predictors of labor market withdrawal, and hours of work. *Milbank Quarterly*, **85**(4), 641–90. <https://doi.org/10.1111/j.1468-0009.2007.00504.x>
- Martin, J.A., Hamilton, B.E., and Osterman, M.J.K. (2018). *Births in the United States, 2017. NCHS Data Brief* (Vol. 318). Retrieved 20 February 2020 from <https://www.cdc.gov/nchs/data/databriefs/db318.pdf>.
- NAC and AARP (2015). *Caregivers of Older Adults: A Focused Look at Those Caring for Someone Age 50 +*. Retrieved 20 February 2020 from <https://www.aarp.org/content/dam/aarp/ppi/2015/caregivers-of-older-adults-focused-look.pdf>.
- National Academies of Sciences, Engineering, and Medicine (2016). *Families Caring for an Aging America*. <https://doi.org/10.17226/23606>
- OECD (2016). PF2.3: Additional leave entitlements for working parents. Retrieved 20 February 2020 from [https://www.oecd.org/els/soc/PF2\\_3\\_Additional\\_leave\\_entitlements\\_of\\_working\\_parents.pdf](https://www.oecd.org/els/soc/PF2_3_Additional_leave_entitlements_of_working_parents.pdf).
- OECD (2018). *Care Needed: Improving the Lives of People with Dementia*. OECD Health Policies Studies. Paris: OECD Publishing. <https://doi.org/https://doi.org/10.1787/9789264085107-en>
- Ortman, J.M., Velkoff, V.A., and Hogan, H. (2014). *An Aging Nation: The Older Population in the United States. Current Population Report*. <https://doi.org/10.1016/j.jaging.2004.02.002>
- Osterman, P. (2017). *Who Will Care for Us? Long-Term Care and the Long-Term Workforce*. New York: Russell Sage Foundation.
- Pavalko, E.K. and Henderson, K.A. (2006). Combining care work and paid work: Do workplace policies make a difference? *Research on Aging*, **28**(3), 359–74.
- Pew Research Center (2017). *Americans Widely Support Paid Family and Medical Leave, but Differ over Specific Policies*. Retrieved 20 February 2020 from <http://www.pewsocialtrends.org/2017/03/23/support-for-paid-leave-policies/>.
- Pinquant, M. and Sörensen, S. (2003). Differences between caregivers and noncaregivers in psychological health and physical health: A meta-analysis. *Psychology and Aging*, **18**(2), 250–67.

- Pinquart, M. and Sörensen, S. (2007). Correlates of physical health of informal caregivers: A meta-analysis. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, **62**(2), 126–37. <https://doi.org/10.1093/geronb/62.2.p126>
- Pinquart, M. and Sörensen, S. (2011). Spouses, adult children, and children-in-law as caregivers of older adults: A meta-analytic comparison. *Psychology and Aging*, **26**(1), 1–14. <https://doi.org/10.1037/a0021863>
- Riffin, C., Van Ness, P.H., Wolff, J.L., and Fried, T. (2017). Family and other unpaid caregivers and older adults with and without dementia and disability. *Journal of the American Geriatrics Society*, **65**(8), 1821–8. <https://doi.org/10.1111/jgs.14910>
- Riffin, C., Van Ness, P.H., Wolff, J.L., and Fried, T. (2018). Multifactorial examination of caregiver burden in a national sample of family and unpaid caregivers. *Journal of the American Geriatrics Society*, **67**(2), 277–83. <https://doi.org/http://dx.doi.org/10.1111/jgs.15664>
- Rossin-Slater, M. and Uniat, L. (2019). Paid family leave policies and population health. *Health Affairs Health Policy Brief*, March. <https://doi.org/10.1377/hpb20190301.484936>
- Rossin-Slater, M., Ruhm, C.J., and Waldfogel, J. (2013). The effects of California's paid family leave program on mothers' leave-taking and subsequent labor market outcomes. *Journal of Policy Analysis and Management*, **32**(2), 224–45. <https://doi.org/10.1002/pam>
- Ryan, L.H., Smith, J., Antonucci, T.C., and Jackson, J.S. (2012). Cohort differences in the availability of informal caregivers: Are the boomers at risk? *The Gerontologist*, **52**(2), 177–88. <https://doi.org/10.1093/geront/gnr142>
- Skira, M.M. (2015). Dynamic wage and employment effects of elder parent care. *International Economic Review*, **56**(1), 63–93. <https://doi.org/10.1111/iere.12095>
- Spillman, B.C., Wolff, J., Freedman, V.A., and Kasper, J.D. (2014). *Informal Caregiving for Older Americans: An Analysis of the 2011 National Study of Caregiving*. Office of Disability, Aging, and Long-Term Care Policy Reports. <https://doi.org/10.1093/geronb/gbu004>
- Stall, N.M., Kim, S.J., Hardacre, K.A. et al. (2019). Association of informal caregiver distress with health outcomes of community-dwelling dementia care recipients: A systematic review. *Journal of the American Geriatrics Society*, **67**(3), 609–17. <https://doi.org/10.1111/jgs.15690>
- Stone, R.I. (2015). Chapter 6 – Factors affecting the future of family caregiving in the United States. In J.E. Gaugler and R.L. Kane (eds), *Family Caregiving in the New Normal* (pp. 57–77). London: Academic Press. <https://doi.org/10.1016/B978-0-12-417046-9.00006-4>
- US Bureau of Labor Statistics (2017a). *Unpaid Elder Care in the United States – 2015–16 Data from the American Time Use Survey* (Vol. 54). Retrieved 20 February 2020 from <https://www.bls.gov/news.release/pdf/elcare.pdf>.
- US Bureau of Labor Statistics (2017b). *Women in the Labor Force: A Databook*. Retrieved 20 February 2020 from <https://www.bls.gov/opub/reports/womens-databook/2017/home.htm>.
- US Census Bureau (2018a). Older people projected to outnumber children for first time in U.S. history. Retrieved 20 February 2020 from <https://www.census.gov/newsroom/press-releases/2018/cb18-41-population-projections.html>.
- US Census Bureau (2018b). Table 1. Projected population size and births, deaths, and migration. Retrieved 15 May 2019 from <https://www.census.gov/data/tables/2017/demo/popproj/2017-summary-tables.html>.
- US Department of Labor (2018). *National Compensation Survey: Employee Benefits in the United States, March 2018*. Retrieved 20 February 2020 from <https://www.bls.gov/ncs/ebs/benefits/2018/ownership/civilian/table32a.pdf>.
- Van Houtven, C.H. and Norton, E.C. (2004). Informal care and health care use of older adults. *Journal of Health Economics*, **23**(6), 1159–80. <https://doi.org/10.1016/j.jhealeco.2004.04.008>
- Van Houtven, C.H. and Norton, E.C. (2008). Informal care and Medicare expenditures: Testing for heterogeneous treatment effects. *Journal of Health Economics*, **27**(1), 134–56. <https://doi.org/10.1016/j.jhealeco.2007.03.002>
- Van Houtven, C.H., Coe, N.B., and Skira, M.M. (2013). The effect of informal care on work and wages. *Journal of Health Economics*, **32**(1), 240–52. <https://doi.org/10.1016/j.jhealeco.2012.10.006>
- Vitaliano, P.P., Zhang, J., and Scanlan, J.M. (2003). Is caregiving hazardous to one's physical health? A meta-analysis. *Psychological Bulletin*, **129**(6), 946–72. <https://doi.org/10.1037/0033-2909.129.6.946>

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## 19. The poverty risks of migrants who retire in their host country: evidence from the first post-war wave of migration into Europe

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### 19.1 INTRODUCTION

Migrants' social rights have received increased academic and political attention over the last decade, not least because of the significant increase in migration within and into the European Economic Area (EEA) over this period. For example, between 2004 and 2018, the number of individuals living in the richer EU-15 states who originated from the new European Union (EU) member states in Eastern Europe increased by more than 124 per cent (Eurostat, 2018; our calculations<sup>1</sup>). The entry of refugees into Europe has also increased: the number seeking asylum in the EU-28 increased by 218 per cent between 2006 and 2014 from 197,000 to 626,000 (European Parliamentary Research Service, 2015).

As would be expected, academic, political and media attention has focused on the immediate social policy challenges these movements pose to destination countries (for example, Green et al., 2008, p. 40) with less consideration given to the longer-term impact of migration. Indeed, with regard particularly to intra-EU migration, the assumption is widespread that migrants will return home, if not before retirement then certainly at that stage. The economics of migration literature (for example, Stark, 1991; Dustmann, 1996; de Coulon and Wolff, 2005; Klinthäll, 2006; Hunter, 2011, p. 183) suggests that migrants will generally stay in their host country only so long as the wage differential with their country of origin remains in place (Dustmann, 1996; de Coulon and Wolff, 2005; Klinthäll, 2006). On retirement, this differential is removed: the pension rights accrued by migrants in their host country will likely provide them with a retirement income with greater purchasing power in their country of origin, so they will return to benefit permanently from the wage differential gained while they were abroad (Dustmann, 1996; de Coulon and Wolff, 2005; Klinthäll, 2006).

Yet, there are good reasons to doubt this rather sanguine picture. Firstly, evidence from the first post-war wave of mainly economic migration within and to Europe throws considerable doubt on these assumptions. This suggests that, while many migrants did indeed return (Dustmann, 1996) and that this increased on retirement (Poulain and Perrin, 2002: see also Dustmann and Kirchkamp, 2000), a significant number stayed, those who had become integrated through employment, through social contacts and particularly through children born in their host country (Edin et al., 2000; Constant and Massey, 2002; Klinthäll, 2003; de Coulon and Woolf, 2005). Secondly, the long-term intentions of refugees are more difficult to predict. Given these migrants are likely to have fled some form of persecution, return migration seems unlikely at any stage of the lifecycle and cannot be assumed.

Against this background, it is important to know the likely financial situation migrants will face when they retire. Will their retirement income be sufficient to maintain a level of

economic and social participation similar to non-migrants? Will they be in relative poverty? Theoretically, as will be seen, there are good reasons to believe they will be, but there is disagreement on this point. Few scholars have addressed this question, but our previous empirical work indicates migrant vulnerability (see Meyer et al., 2012; Bridgen and Meyer, 2018; see also Vlachantoni et al., 2017). We micro-simulated the expected pensions on retirement of current hypothetical working-age intra-EU migrants and found migrants' pensions more likely to be below the poverty line than those of similar native workers, mainly because any pension rights migrants secure in their country of origin will be almost worthless in their host country due to wage differentials. This risk of poverty in retirement rises, we found, the later migrants migrate to their host country and the longer the period of labour market disadvantage they experience on arrival.

This chapter complements this work by considering the situation of 'real' people: it focuses on a sample of retired migrants from the first wave of post-war migration to the EEA. We also extend our focus by considering migration into the EEA from outside Europe. This migration began shortly after 1945, as economic growth and high levels of employment led to labour shortages in several countries, which peaked in the 1960s. At first, it mainly involved migration from the former colonies of the various European powers, but increasingly it also led to movement into the EEA from countries outside the trade bloc, in Europe or elsewhere, some for humanitarian reasons (Peach, 1968, 1997; Böhning, 1972; Castles and Kosack, 1973; Salt and Clout, 1976; Castles et al., 1984; Heckmann, 1985; Ogden, 1989; Hall and White, 1995; King et al., 1996; Ganga, 2006). As mentioned, many of these migrants stayed in Europe permanently, settling and retiring there (Castles et al., 1984). This chapter investigates the financial situation of this group by using the first wave of the SHARE dataset.

The chapter is organised as follows. The next section summarises the expectations of the literature with regard to the financial situation of migrants on retirement in their host country. The following sections explain the chapter's methods, provide details of descriptive statistics and regression results, and finally discuss the significance of the findings.

## 19.2 THEORETICAL EXPECTATIONS ABOUT MIGRANTS' FINANCIAL SITUATION IN RETIREMENT

By and large, economic theory expects that migrants return to their country of origin before or on retirement for financial reasons. Consequently, neither the neo-classical nor new economics of labour migration literatures<sup>2</sup> have considered what happens if migrants stay. Nevertheless, economic theory can be used to predict the financial circumstances of migrants if they retire in their host country. For example, the literature includes expectations about migrant performance in host country labour markets, an important determinant of the size of migrants' pensions. All variants of the economics literature thus expect migrants to integrate fully in their host country labour market as they seek to maximise their income. They will invest in human capital, for example, to ensure the wage disadvantage they are likely to experience on arrival is progressively dissipated. Migrants may never be able to catch up in terms of overall lifetime earnings, but the initial disparity between the earnings of natives and similarly skilled immigrants should decline over time (Constant and Massey, 2005). In terms of pension rights, this would mean that migrants are not substantially disadvantaged in comparison with native workers.



However, such assumptions have been contested. Dual or segmented labour market theory (Piore, 1979) is more pessimistic, particularly when new entrants, like the first wave of migrants to Europe, enter the least-privileged parts of the labour market (for example, Castles and Kosack, 1973). This theory suggests that movement is difficult out of 'bad' jobs in peripheral sectors that pay low wages, with no clear promotion trajectory. Lower wage growth among migrants compared to native workers in the core economy would lead to increasing wage gaps, a situation exacerbated by employment discrimination, based on racism or xenophobia (Becker, 1957). The possibility of migrants overcoming such disadvantages is expected to vary in relation to their skills and, relatedly, country of origin (for example, Chiswick, 2005), and migrants' original reason for migrating, for example, whether they are economic migrants or refugees (Cortes, 2004). Thus, migrants whose human capital, such as language skills, is closely aligned with their host country labour market are likely to do better (for example, Dustmann and Fabbri, 2003). All continuing disadvantages would prolong migrants' wage gap with native workers, making migrants' financial situation on retirement substantially more precarious than natives.

Empirically, the dual labour market approach has greatest support, regardless of the labour market studied. Work on the USA, Germany and Spain (Powers and Seltzer, 1998; Constant and Massey, 2005; Comet, 2014) all show migrants substantially over-represented at the periphery and less mobile, with significant implications for their wages (Constant and Massey, 2005; Hall and Farkgas, 2008; Kanas and van Tubergen, 2009; Cebolla-Boado et al., 2015). More optimistically, however, the gap between migrants' and natives' wages does not always appear to have grown over time, and some migrants appear able to improve their wages, if not their labour market status, based on skills acquired in the host country, albeit that such improvements are very slow: one study on Germany, for example, found migrants took 23 years to eventually reach wage parity with natives (Constant and Massey, 2005). Moreover, the empirical literature confirms that migrants' prospects vary between their countries of origin. Thus, Eastern European migrants to Spain were less susceptible to unemployment during the great recession from 2009 than those from Africa and Latin America (Cebolla-Boado et al., 2015), a finding explained by skill differences, including language proficiency (Kanas and van Tubergen, 2009). On the impact of migrants' original reason for migrating, the literature is more mixed, with most studies showing that while refugees initially do worse in the labour market than economic migrants, this is short-lived and is sometime reversed over the longer term (Cortes, 2004; Ruiz and Vargas-Silva, 2017, 2018; Giri, 2018; Luik et al., 2018; Zwysen, 2019).

Finally, the new economics literature suggests that the overall financial circumstances of retired migrants will be deflated because those who have earned and saved a lot during their economically active period are more likely to return early to their country of origin, leaving their poorer counterparts to stay in their host country in later life (Stark, 1991; Taylor, 1999; Taylor et al., 2003). In contrast, the neo-classical variant suggests that the 'winners' of the migration process with greater financial wealth will stay the longest in their host country (Klinthäll, 2003). On this reading, the most economically successful migrants are fully integrated in the destination country labour market; those who are unsuccessful return home much sooner. Empirical work on this question is rare and provides mixed evidence. Thus, Klinthäll's study of the retirement decisions of more than 100,000 older migrants to Sweden from 11 countries between 1979 and 1996 found migrants who returned had higher average incomes during their time in Sweden than those who remained (2006, p. 170). But other studies have

found contrary evidence and highlighted the complicating influence of additional factors such as house ownership (for example, Bolzman et al., 2004, p. 136).

Despite differences in the economics literature, it is united in focusing on how migrants' financial circumstances upon retirement are affected systematically by their economic performance. But there are also institutional and sociological factors that might have an impact. Institutionally, the welfare state literature expects that the conversion of migrants' wages into a pension will exacerbate their vulnerability (see also Chapter 16 in this volume). Public and occupational pension institutions in EU member states have historically been based on the presumption of a restricted national population (Warnes, 2007). Entitlements have thus generally been calculated based on workplace national insurance contributions (some public and all occupational) or residency (only public schemes), meaning that migrants' entitlements will generally be lower because most enter their host country later in their working life. The extent to which these institutional factors affect migrants' retirement income will be influenced by two factors. The first is the type of pension system operating in migrants' host country. Thus, Bismarckian systems (for example, Germany and France) operate work-based entitlements and are strongly earnings-related, while Beveridgean systems (for example, Denmark and the Netherlands) often base entitlement on residency and are more redistributive. Migrants would be expected to do better in the latter (Bridgen and Meyer, 2018). Secondly, intra-EEA migrants should be better protected against institutional obstacles to pension accrual than non-EEA migrants because European law ensures all migrant workers within the European single market are able to transfer and aggregate their contributions to first tier, state-run earnings-related schemes (for example, Ackers and Dwyer, 2004). Some problems have been identified with the operation of this system (for example, Holzmann and Koettl, 2011, p. 49) and it did not cover the transfer of private pension rights before 2014 (for example, European Commission, 2014).<sup>3</sup> Migrants from outside the EEA are not covered and have to rely on any bilateral agreements between their country of origin and host country on the transfer of social entitlements. Moreover, even if legislation could be relied upon to ensure strict transferability between countries most migrants would still be significantly disadvantaged by the substantial wage differences between their countries of origin and their host country (see Bridgen and Meyer, 2018; Meyer et al., 2012).

Sociologists, on the other hand, emphasise socio-political factors such as migrants' family ties or the political and economic situation in the host or source country (Bolzman et al., 2004). For example, some migrants will return to their country of origin because they have strong family contacts; others will remain because they have children born in their host country; some migrants will remain because the political situation in their source country is unstable; others will return because they have encountered racism or prejudice in their host country. These factors make it unlikely that migrants' economic performance alone will determine their decisions to stay or go.

In summary, the literature reviewed leads to the conclusion that migrants from lower to higher income countries are likely to enter peripheral parts of the labour market, from which they will find it difficult to exit. Their lifetime wages and retirement income are thus expected to be below those of native workers, but the scale of this difference might vary in relation to country of origin. The retirement income will be further affected negatively by entitlement conditions based on national welfare boundaries, which is particularly problematic for non-EEA migrants. Finally, while the evidence on saving and return migration is mixed, there

are also some grounds to expect that the poorest migrants are more likely to retire in their host country.

Despite these conclusions, the data about migrants' financial position on retirement is limited; we know little about how the finances of migrants and natives compare; and about what type of migrant is most at risk of hardship among those who remain in their host country on retirement today. Some of these answers do not exist yet, because they refer to ongoing processes. It is not clear yet where most of the East–West European migrants of the 2000s will retire, for example. It is less obvious why we also know nothing about how migrants from previous waves of migration who have retired some time ago fare today. These individuals have simply not been studied. It is the aim of our chapter to contribute some knowledge to this gap. We hope that by studying the experience of the first wave of migrants to the EEA who retired in their host countries we will not only learn something about their financial circumstances, but also be able to draw some conclusions for the situation of those East–West European migrants who came during the 2000s, many of whom, too, will retire in their host countries one day.

### 19.3 METHODS

The aim of this chapter is to explore the current financial situation of the first wave of migrants into the EEA who have decided to stay and retire in their host country. To this end, we are using data from wave one (2004/5) of the SHARE database. This database is a cross-national panel, administered from the Mannheim Research Institute that covers a range of topics, including health, assets, employment, retirement and pension provision (see also Chapter 6 in this volume). It is based on a probability sample of the over 50-year-old, non-institutionalised population in 14 countries – Austria, Belgium, Czech Republic, Denmark, France, Germany, Greece, Israel, Italy, the Netherlands, Poland, Spain, Sweden and Switzerland. The data was collected by national teams using a common questionnaire translated into the local language (see Börsch Supan and Jürges, 2005). The overall household response rate for wave one, at 61.8 per cent, was significantly higher than other European scientific surveys, with most national response rates well above 40 per cent.

Because we are interested in the first wave of migration into the EEA we selected individuals from the 11 European countries in the SHARE sample – Austria, Belgium, Denmark, France, Germany, Greece, Italy, the Netherlands, Spain, Sweden and Switzerland.<sup>4</sup> We excluded the Czech Republic, Israel and Poland, and no data was available for Ireland. From this sample, we chose only individuals who were retired, which comprised 13,389 persons. After removing migrants who were under 18 when they migrated ( $N=397$ ), 638 (5 per cent) were identified as migrants because their country of birth differed from their country of residence. This restriction was important because we were interested in the impact on migrants of late entry into their host country labour market. The latter was expected to reduce and/or delay migrants' entitlement to host country pensions, thus diminishing their chances of accruing a retirement income close to native citizens.

We split the migrant sample into two groups based on their country of origin. Group one included all migrants from EEA countries and Switzerland. Group two included all migrants from outside the EEA. This division was based on our previous work which suggests migrants' pensions are likely to be affected by (1) the economic development of their country of origin,

particularly its wage levels compared to their host country; and (2) the varying regulatory relationships between the welfare institutions of the countries in which they have lived (Meyer et al., 2012; Bridgen and Meyer, 2018). Such a division was also consistent with the literature detailed above which suggests differences in migrants' labour market performance based on (1) variations in the perceived value in their host country of the human capital developed in their country of origin; and (2) whether they are economic migrants or refugees. Thus, we would expect the EEA group to be advantaged in relation to their human capital and because fewer, if any, of them are likely to be refugees.

To determine the financial circumstances of the natives and migrants in our sample, we chose individuals who had recorded an amount when asked about payments from a public and/or occupational pension and who received a lump sum amount on retirement.<sup>5</sup> This comprised 7,697 natives and 419 migrants. The sums recorded in answers to these questions were for a variety of time periods and so we converted them all into annual payments.<sup>6</sup> The annual amounts received by these individuals from the various sources were then summed and compared with the national relative poverty line in 2004/05 of the country within which they were living. This was calculated as 40 per cent of the gross average wages based on Organisation for Economic Co-operation and Development data (OECD Stat, 2018).<sup>7</sup>

We ran binary logistic regression models to estimate the impact of migrant status on the relative poverty situation of retired individuals within the two groups compared to native-born. We first compared all native-born individuals with all migrants. In model one, no control variables were included. In model two, we controlled for demographic variables, such as gender, age and marital status, and an educational variable (see below). Finally, in model three, we included employment variables likely to affect pension entitlement, such as the size of the individual's last employer and whether it was in the public or private sector. We also included a variable to assess individuals' managerial status based on whether they had supervisory responsibilities in their last job (question EP057). Based on the pensions literature we expected that older individuals, women in particular, would be more vulnerable to poverty in retirement (for example, Ginn, 2003). We also expected greater vulnerability for individuals with lower levels of education and for those whose last employment was in private sector firms, particularly if these had 200 employees or fewer.<sup>8</sup> This is because small employers are less likely to offer occupational pensions or, where they do, they are less generous (Ebbinghaus, 2010). We used a survey question on further education (DN012), dividing our individuals based on whether they had experienced some or no further education. Size of last employer was also dichotomised using the scales included in question EP056: those individuals who recorded their last employer as employing 1–5, 6–15, 16–24 and 25–199 people were grouped together, with those recording their last employer as employing 200–499 or 500 people and above grouped separately. Ideally, more details of our sample's labour market history would have been included, such as their wage trajectory, but no such data was available.

To determine the extent to which country of origin affected the results of these regressions we ran them again using the same models but first comparing non-migrants with migrants from the EEA, and then comparing non-migrants with migrants from outside the EEA. Finally, we ran similar regressions comparing the two migrant groups but additionally controlling for age of migration. This was to test the impact on retirement poverty risk of the age at which migrants from inside and outside the EEA migrated into the EEA. It also allowed us to investigate other reasons for any differences between the two groups, particularly the impact of education and labour market performance.

## 19.4 DESCRIPTIVE STATISTICS

The descriptive statistics for all variables used in the multivariate analysis are listed in Table 19.1. This shows the number of migrants coming from the EEA was slightly smaller (2.5 per cent) than the number coming from countries outside the EEA (2.7 per cent). Overall, there were more males in the sample than females, but this was not the case for EEA migrants, among whom females (51.5/48.5 per cent) were more prevalent. The age ranges of each group were very similar: the percentages over 70 in the native-born and EEA migrant group were near-identical (60.3 per cent and 60.9 per cent), while 62.7 per cent of non-EEA migrants were over this age. However, EEA migrants were slightly younger when they migrated (29/34 per cent). There were no substantial differences in the marital status of the three groups. However, educationally, the non-EEA migrant group had fewer individuals who had experience of further education. With regard to the variables used in model 3, the number of individuals whose last job had been in the public sector was similar for native-born (26 per cent) and non-EEA migrants (24.9 per cent) but lower for EEA migrants (19.5 per cent). Last employment in a larger firm was more common among non-EEA members of the sample (30.3 per cent) than those who were native-born (24.3 per cent) or from the EEA (25.7 per cent). Finally, supervisory responsibilities in last employment was most common among native-born individuals (33.9 per cent) and identical between EEA (30.1 per cent) and non-EEA migrants (30.1 per cent).

Table 19.2 shows the countries of residence and origin of our sample. Of the 15 countries of origin of migrants in the EEA group, 13 are full members of the EU since 1995 (that is, the EU-15), Norway is a member of the EEA and participates in the EU single market and Switzerland is closely associated with both the EEA and the EU single market. Of the 35 countries of origin of the non-EEA group, 18 are in Europe from which 119 migrants originate. Most of these countries were formerly in the Eastern bloc, communist before the bloc's collapse in 1989. Of the 17 other countries of origin, from which 98 migrants originate, five are in Africa, six are in Asia, five are in Latin America and one is in North America. These migrants settled in the 11 countries. Most EEA migrants settled in Sweden (20.7 per cent), Belgium (19.8 per cent) and Switzerland (15.2 per cent); most non-EEA migrants settled in Germany (33.2 per cent) and France (27.6 per cent).

## 19.5 RESULTS

The results for the first regression are detailed in Table 19.3. This compared the pension income in relation to the poverty line of all native-born retired individuals with all retired migrants. The results show that the latter are at significantly greater risk of poverty in retirement in all three models. In model one, without the addition of control variables, the odds that a migrant will be above the poverty line in retirement is 0.8 times that of a non-migrant. This situation worsens in models two and three when controls are added to account for alternative explanatory variables. Thus, in model two, including demographic variables and an education variable, the odds of migrants being above the poverty line diminishes to 0.71 times that of non-migrants. With the addition of variables to account for type of employer (public/private sector, large/small) and job status (model three) the migrants' odds rise slightly to 0.73, still below those recorded in model one. As expected, a large number of the control variables are

Table 19.1 Descriptive statistics for native-born, EEA and non-EEA migrants included in SHARE sample

Variables	Overall	Native born (%)	EEA (%)	Non-EEA (%)	Variables	Overall	Native born (%)	EEA (%)	Non-EEA (%)
Income below poverty line	53.9	53.7	52.7	62.7	Further Education	60.2	60.5	56.8	52.3
Income above poverty line	46.1	46.3	42.5	37.3					
Country of birth	NA	94.8	2.5	2.7	No	39.8	39.5	43.2	47.7
Gender					Last job in public sector				
Male	54.7	54.7	48.5	59.4	Yes	25.8	26.0	19.5	24.9
Female	45.3	45.3	51.5	40.6	No	74.2	74.0	80.5	75.1
Marital status					Last job in large firm <sup>a</sup>				
Never married	5.3	5.4	4.0	5.07	Yes	24.5	24.3	25.7	30.3
Married and cohab	66.6	66.6	65.3	66.82	No	75.5	75.7	74.3	69.7
Registered partnership	1	1.0	1.5	0.92	Supervisory role in last job				
Married but not cohab	0.9	0.9	0.5	1.38	Yes	33.7	33.9	30.1	30.1
Divorced	5.4	5.3	6.4	6.45	No	66.3	66.1	69.9	69.9
Widowed	20.8	20.8	22.3	19.35					
Age									
50–69	39.7	39.7	39.1	37.3					
70 or over	60.3	60.3	60.9	62.7					
Average age at migration	NA	NA	29	34					

Note: <sup>a</sup> Employers with more than 200 employees. Source: SHARE dataset, wave one.

Table 19.2 *Countries of residence and origin of individuals in SHARE sample*

Countries of origin (number of migrants)		Country of residence			Native born (%)	EEA (%)	Non-EEA (%)		
		Overall (%)							
EEA	non-EEA								
Austria	Algeria	6	35	Moldova	2	Austria	8.1	7.8	7.4
Belgium	Argentina	1	4	Morocco	13	Belgium	12.2	19.8	3.2
Denmark	Bosnia Herzegovina	9	1	Netherlands Antilles	1	Denmark	6.5	0.5	0.9
Finland	Cambodia	23	1	Netherlands East Indies	3	France	13.6	12.9	27.6
France	Chile	12	2	Peru	2	Germany	11.2	8.8	33.2
Germany	Colombia	68	1	Poland	24	Greece	9.8	0.0	2.8
Italy	Croatia	37	2	Romania	6	Italy	5.0	0.0	0.9
Luxembourg	Czechoslovakia	1	11	Russian Federation	15	Netherlands	8.2	5.5	9.2
Netherlands	Czech Republic	12	4	Slovakia	3	Spain	6.5	1.8	0.9
Norway	Egypt	5	3	Slovenia	3	Sweden	14.4	20.7	10.1
Portugal	Estonia	9	2	Suriname	6	Switzerland	4.3	15.2	3.7
Spain	German Democratic Republic	9	18	Tunisia	1				
Sweden	Hungary	1	7	Turkey	12				
Switzerland	India	4	2	Ukraine	7				
UK	Indonesia	5	7	USSR	4				
Total	Iran	202	2	Yugoslavia	9				
	Former territories of								
	Lithuania		1	Germany	1				
	Madagascar		2	Total	217				

Source: SHARE dataset, wave one.

also significantly correlated with risk of poverty in retirement. Of these, the greatest impact is for individuals in registered partnerships compared to single individuals, and for the employment variables. On the former, an individual in a registered partnership is 2.3 (model two) or 2.2 (model three) times more likely to be above the poverty line than a single individual. Of the employment variables, the greatest impact is for supervisory responsibilities. Individuals who had these in their last job are 2.4 times more likely than those without such responsibilities to be above the poverty line in retirement. The odds are also increased for those whose last job was in the public sector (1.8 times) or who worked in a larger firm (1.5 times).

How does this situation change when account is taken of migrants' country of origin? Tables 19.4 and 19.5 show the results of regressions comparing the pension income in relation to the poverty line of all native-born retired individuals with all retired EEA migrants (Table 19.4), and all native-born retired individuals with all retired non-EEA migrants (Table 19.5). These tables show it is non-EEA migrants who face an increased risk of poverty in retirement. No significant correlations are found in relation to migration for any of the three models that compare EEA migrants and non-migrants (Table 19.4). In contrast, all models comparing non-EEA migrants and non-migrants show significant risks for migration, which increase when the alternative explanatory variables are accounted for (Table 19.5). Thus, in model one, non-EEA migrants are 0.58 times as likely as non-migrants to be above the poverty line in retirement. In models two and three, they are respectively 0.44 and 0.45 times as likely. The risks found in these models for non-EEA migrants compared with non-migrants are significantly greater than those found in the models that compared all migrants with non-migrants (Table 19.6).

Table 19.6 shows that this difference in retirement poverty risk between EEA and non-EEA is not caused by differences in the average age at migration of the two groups. Certainly, migration age matters greatly for retirement income because even if there are entitlements which can be migrated from the country of origin, these are likely to be very low, as discussed initially. We also saw above that EEA migrants generally migrated earlier than non-EEA ones. However, the retirement poverty risk of individuals from outside the EEA remains significantly greater than for EEA migrants even after this variable is accounted for. In model two of Table 19.6, an EEA migrant is 2.9 times more likely to be above the poverty line than a non-EEA migrant; in model three, the figure is similar. Of the other factors included in these models, only gender, education and supervisory responsibilities exert a significant impact, with the last variable most important. Thus, an EEA migrant with supervisory responsibilities in the last job is almost twice as likely as a non-EEA migrant in the same position to be above the poverty line in retirement. In contrast, further education only increases their chances by 0.3 times (model two) and 0.4 times (model three).

## 19.6 DISCUSSION

The main finding of this study is that migrants living in the EEA who stayed in their host country on retirement are at significantly greater risk of relative poverty than native retired citizens, but this increased risk varies depending on migrants' country of origin. Those who moved into the EEA from countries outside it are at greater risk, those who moved within the EEA are not. The latter's late entry into their host country labour market does not seem to disadvantage them in the long term. This result is consistent with the findings of our pre-



*Table 19.3 Binary logistic regression models: correlation coefficients, standard error, odds ratios for retirement income above the poverty line for all retired migrants in EEA countries in 2004/5*

Variables	Retirement income above the poverty line											
	Model One			Model Two			Model Three			Odds ratio	Significance	Odds ratio
	Coefficient	Standard error	Significance	Odds ratio	Coefficient	Standard error	Significance	Odds ratio	Coefficient			
whether or not individual is a migrant	-0.246	0.188	0.037***	0.782	-0.349	0.13	0.007***	0.705	-0.32	0.133	0.016***	0.726
age in 2004												
(1) 60-69 years					-0.23	0.194	0.235	0.794	-0.176	0.201	0.381	0.839
(2) 70-79 years					-0.46	0.194	0.018***	0.631	-0.428	0.201	0.033***	0.652
(3) 80-89 years					-0.631	0.208	0.002***	0.532	-0.632	0.215	0.003***	0.532
(4) 90 years and over					-0.872	0.319	0.006***	0.418	-0.823	0.329	0.012***	0.439
Gender					-1.594	0.067	0***	0.203	-1.47	0.071	0***	0.23
marital status												
(1) married and cohabiting					-0.225	0.137	0.100	0.798	-0.227	0.138	0.100	0.797
(2) registered partnership					0.828	0.336	0.014***	2.289	0.782	0.336	0.02***	2.186
(3) married, not cohabiting					-0.492	0.365	0.178	0.612	-0.431	0.37	0.244	0.65
(4) divorced					0.256	0.181	0.158	1.292	0.213	0.184	0.247	1.237
(5) widowed					-0.146	0.149	0.328	0.864	-0.133	0.151	0.380	0.876
Further education:												
none(1)					-0.88	0.063	0***	0.415	-0.634	0.066	0***	0.53
Employed in the public sector, last job(1)									0.597	0.075	0***	1.817

Retirement income above the poverty line												
Variables	Model One			Model Two			Model Three					
	Coefficient	Standard error	Significance	Odds ratio	Coefficient	Standard error	Significance	Odds ratio	Coefficient	Standard error	Significance	Odds ratio
Large firm (>200 employees)(1)									0.43	0.075	0***	1.537
Responsibility for supervising others, last job(1)					0.87	0.072	0***	2.387				

Source: SHARE dataset, wave one.

Table 19.4 Binary logistic regression models: correlation coefficients, standard error, odds ratios for retirement income above the poverty line for all retired EEA migrants in EEA countries in 2004/5

Variables	Retirement income above the poverty line											
	Model One			Model Two			Model Three			Model Four		
	Coefficient	Standard error	Significance	Odds ratio	Coefficient	Standard error	Significance	Odds ratio	Coefficient	Standard error	Significance	Odds ratio
whether or not individual is a migrant	0.029	0.161	0.856	1.03	0.109	0.178	0.543	1.115	0.141	0.182	0.439	1.151
age in 2004												
(1) 60–69 years					-0.196	0.197	0.319	0.822	-0.162	0.204	0.428	0.851
(2) 70–79 years					-0.44	0.197	0.026***	0.644	-0.425	0.204	0.037***	0.654
(3) 80–89 years					-0.629	0.211	0.003***	0.533	-0.644	0.219	0.003***	0.525
(4) 90 years and over					-0.837	0.324	0.01***	0.433	-0.798	0.334	0.017***	0.45
Gender					-1.596	0.068	0***	0.203	-1.477	0.072	0***	0.228
marital status												
(1) married and cohabiting					-0.234	0.138	0.092	0.792	-0.24	0.14	0.085	0.786
(2) registered partnership					0.863	0.343	0.012***	2.369	0.803	0.344	0.02***	2.233
(3) married, not cohabiting					-0.576	0.38	0.130	0.562	-0.532	0.387	0.169	0.588
(4) divorced					0.279	0.184	0.129	1.322	0.232	0.186	0.213	1.261
(5) widowed					-0.151	0.151	0.318	0.86	-0.148	0.153	0.334	0.863
Further education:												
none(1)					-0.882	0.064	0***	0.414	-0.63	0.068	0***	0.532
Employed in the public sector, last job(1)									0.629	0.076	0***	1.875

Variables	Retirement income above the poverty line											
	Model One			Model Two			Model Three					
	Coefficient	Standard error	Significance	Odds ratio	Coefficient	Standard error	Significance	Odds ratio	Coefficient	Standard error	Significance	Odds ratio
Large firm (>200 employees)(1)									0.442	0.077	0***	1.555
Responsibility for supervising others, last.job(1)					0.88	0.073	0***	2.412				

Source: SHARE dataset, wave one.

*Table 19.5 Binary logistic regression models: correlation coefficients, standard error, odds ratios for retirement income above the poverty line for all retired non-EEA migrants in EEA countries in 2004/5*

Variables	Retirement income above the poverty line											
	Model One			Model Two			Model Three					
	Coefficient	Standard error	Significance	Odds ratio	Coefficient	Standard error	Significance	Odds ratio	Coefficient	Standard error	Significance	Odds ratio
whether or not individual is a migrant	-0.539	0.171	0.002***	0.583	-0.822	0.186	0***	0.439	-0.803	0.192	0***	0.448
age in 2004												
(1) 60-69 years					-0.264	0.195	0.176	0.768	-0.221	0.202	0.273	0.802
(2) 70-79 years					-0.485	0.195	0.013***	0.616	-0.463	0.201	0.022***	0.629
(3) 80-89 years					-0.668	0.21	0.001***	0.513	-0.68	0.216	0.002***	0.507
(4) 90 years and over					-0.843	0.321	0.009***	0.43	-0.804	0.331	0.015***	0.447
Gender					-1.601	0.068	0***	0.202	-1.477	0.072	0***	0.228
marital status												
(1) married and cohabiting					-0.199	0.139	0.154	0.82	-0.195	0.14	0.164	0.823
(2) registered partnership					0.896	0.343	0.009***	2.45	0.876	0.344	0.011***	2.401
(3) married, not cohabiting					-0.419	0.368	0.255	0.658	-0.35	0.373	0.348	0.705
(4) divorced					0.272	0.185	0.141	1.312	0.225	0.187	0.230	1.252
(5) widowed					-0.138	0.152	0.365	0.871	-0.118	0.154	0.444	0.889
Further education:												
none(1)					-0.884	0.064	0***	0.413	-0.64	0.068	0***	0.527
Employed in the public sector, last job(1)									0.594	0.076	0***	1.81

Retirement income above the poverty line												
Variables	Model One			Model Two			Model Three					
	Coefficient	Standard error	Significance	Odds ratio	Coefficient	Standard error	Significance	Odds ratio	Coefficient	Standard error	Significance	Odds ratio
Large firm (>200 employees)(1)									0.428	0.077	0***	1.533
Responsibility for supervising others, last job(1)					0.858	0.073	0***	2.359				

Source: SHARE dataset, wave one.

*Table 19.6 Binary logistic regression models: correlation coefficients, standard error, odds ratios for retirement income above the poverty line of all retired EEA migrants compared to all retired migrants in EEA countries in 2004/5*

Variables	Retirement income above the poverty line											
	Model One				Model Two				Model Three			
	Coefficient	Standard error	Significance	Odds ratio	Coefficient	Standard error	Significance	Odds ratio	Coefficient	Standard error	Significance	Odds ratio
whether or not individual is a migrant	0.568	0.231	0.0139***	1.765	1.068	0.288	0.00***	2.909	1.052	0.294	0.00***	2.863
age in 2004												
(1) 60-69 years					-1.247	1.107	0.260	0.287	-0.660	1.146	0.565	0.517
(2) 70-79 years					-1.462	1.108	0.187	0.232	-0.949	1.137	0.404	0.387
(3) 80-89 years					-0.763	1.137	0.502	0.466	-0.297	1.169	0.799	0.743
(4) 90 years and over					-2.707	1.643	0.099	0.067	-2.228	1.678	0.184	0.108
Gender												
Age on migration					-2.082	0.329	0.00***	0.125	-1.964	0.339	0.00***	0.140
marital status												
(1) married and cohabiting					-0.030	0.011	0.01***	0.970	-0.028	0.011	0.013***	0.972
(2) registered partnership												
(3) married, not cohabiting					-0.875	0.712	0.219	0.417	-0.845	0.699	0.227	0.430
(4) divorced					-1.378	1.451	0.342	0.252	-1.081	1.429	0.449	0.339
(5) widowed					-0.287	1.293	0.825	0.751	-0.161	1.266	0.899	0.852
Further education:												
none(1)					-1.163	0.277	0.00***	0.313	-1.029	0.285	0.00***	0.357
Employed in the public sector, last job(1)									0.341	0.335	0.309	1.406

Retirement income above the poverty line												
Variables	Model One			Model Two			Model Three					
	Coefficient	Standard error	Significance	Odds ratio	Coefficient	Standard error	Significance	Odds ratio	Coefficient	Standard error	Significance	Odds ratio
Large firm (>200 employees)(1)									0.335	0.306	0.274	1.397
Responsibility for supervising others, last job(1)									0.680	0.295	0.021***	1.974

Source: SHARE dataset, wave one.



*Table 19.7 Education and supervisory responsibilities of EEA and non-EEA migrants*

	EEA migrant (%)	Non-EEA migrant (%)
Further education but no supervisory responsibilities	57.4	62.8
No further education and supervisory responsibilities	22.4	20.9

vious work that retired migrants who stay in their host country are particularly vulnerable to retirement poverty when they move from a country that has significantly lower average wages. Our previous study showed current intra-EU migrants from the poorer, post-expansion Eastern countries to be more vulnerable to retirement poverty than those from other EU-15 countries based on projections of current migrants' retirement income (Bridgen and Meyer, 2018). This study confirms this finding based on SHARE data relating to the migratory experiences, working lives and pension income of 'real people': it shows migrants who have moved between countries with similar wage levels within the EEA are at less risk of retirement poverty than those coming from outside the EEA, where relative wage rates would have been lower.

Other factors are also likely to explain the greater poverty risk we found for retired non-EEA migrants in this study. Firstly, legislative arrangements for pension transfer are better developed within the EEA than between EEA countries and those outside the trading bloc. It would therefore have been easier for intra-EEA migrants than non-EEA migrants to access retirement income from their country of origin. As a result, it is plausible that more of our EEA migrants than non-EEA ones included a pension from their country of origin when reporting their pension for the SHARE survey. However, the SHARE questionnaire does not ask respondents to specify the national source of their retirement income, so further research is required on this matter.

Secondly, it is noteworthy that our results comparing EEA migrants and non-EEA migrants found differences in the relationship between individuals' education and their labour market status. In particular, the educational credentials of non-EEA migrants seem to carry less weight in their host country than those of similarly skilled migrants from other countries of origin. Thus, more non-EEA than EEA migrants with further education did not have supervisory responsibilities in their last job. Conversely, more EEA migrants had supervisory responsibilities despite no further education (Table 19.7). This finding is also reflected in model three of the regression comparing EEA and non-EEA migrants (Table 19.6) which found that supervisory responsibility reduced to a much greater extent the poverty risk of EEA migrants (1.98 times) than education (0.36 times). If educational achievement between the two groups was equally valued, we would expect these odds to be much closer. These findings are consistent with previous work suggesting contextual factors affect how similarly skilled migrants fare in their host country (for example, Cebolla-Boado et al., 2015) and seem likely to have reduced the pensions that non-EE migrants would have accrued by retirement.

Finally, it is possible that our results are at least partially explicable based on differences of migrant type. As has been seen, most previous investigations suggest that economic migrants outperform refugees in their host country's labour market, but that this is normally of short duration. The difference between the two types of migrant would thus not be expected to have a long-term impact on the respective pensions of the two groups. However, given that it is

Table 19.8 Pension type in EEA and non-EEA migrants countries of residence and origin of individuals in SHARE sample

Country of residence	Overall (%)	EEA (%)	Non-EEA (%)
Bismarckian			
Austria	8.1	7.8	7.4
Belgium	12.2	19.8	3.2
France	14.0	12.9	27.6
Germany	11.8	8.8	33.2
Greece	9.4	0.0	2.8
Italy	4.8	0.0	0.9
Spain	6.2	1.8	0.9
Total	66.5	51.2	76.0
Beveridgean			
Denmark	6.2	0.5	0.9
Netherlands	8.2	5.5	9.2
Sweden	14.5	20.7	10.1
Switzerland	4.6	15.2	3.7
Total	33.5	41.9	24.0

likely that our non-EEA migrant group contains a greater proportion of refugees this cannot be ruled out as an explanation for our results.

There are some limitations to this study. Firstly, SHARE data only covers individuals' public and occupational pension provision. Some of our individuals might have supplemented this income with their own private retirement savings. There is some evidence that migrants save more than natives (for example, Merkle and Zimmerman, 1992), which would mean that our results would underestimate migrants' retirement income relative to natives. However, this concern is reduced given that increased saving among migrants is generally associated with individuals who return quickest to their country of origin, not those like our sample who remain (Piore, 1979; De Arcangelis and Joxhe, 2015).

The second limitation concerns the exclusion in our regressions of the varying types of pension system migrants would have been members of in their host country. As mentioned, Bismarckian and Beveridgean systems vary substantially in terms of coverage, universality and redistribution, with likely implications for migrant entitlement and thus retirement income. Our sample size was too small to allow the results to be broken down by host country or in relation to pension types. Thus, this cannot be ruled out as an alternative explanation for our results given more of our EEA migrants moved to countries with Beveridgean systems in which more inclusive and redistributive entitlement would generally be expected (Table 19.8). More research is required to determine the importance of this factor.

## NOTES

1. Data is not available for all EU-15 countries. The figure for France is for 2005.
2. The neo-classical approach models migrants' behaviour as driven solely by relative wage levels; if the gap narrows between these in favour of a migrant's country of origin, they are more likely to return (Sjaastad, 1962). The 'new economics' of migration adopts a more holistic approach, including for example migrants' preferences for their country of origin and family context. On this reading, migrants are target savers who will return home once their target has been reached or

- once it is no longer feasible that it will be reached (Stark, 1991; Dustmann, 1996; Dustmann and Kirchkamp, 2000).
3. For a fuller review of the literature on pension transfer within the European single market, see Meyer et al. (2012).
  4. Switzerland was included because, while it is not a member of the EEA, it is a founding member of the European Free Trade Area, and consequently has close associations with the EEA and the EU internal market.
  5. We considered excluding lump sum payments because these are normally only received in the first year of retirement, and are generally designed not to provide an immediate source of income, but to facilitate the purchase of an annuity protecting income throughout retirement. However, not all retirees purchase an annuity, so excluding lump sums could falsely exaggerate relative poverty levels. Moreover, the impact of this source of income turned out to be marginal.
  6. Monthly and four-weekly time periods were grouped together in the database with no indication given of the precise time period of each amount in this group. If these time periods had been separated we would have multiplied the former by 12 and the latter by 13 to give an annual amount. However, because this was not possible we multiplied all amounts by 12. This means that the amount of pension received by some individuals is a slight underestimate. There is no means of determining the scale of this underestimation nor its impact on the overall results, but it is likely to be marginal.
  7. Average annual wages are for full-time and full-year equivalent employees in the total economy.
  8. We assumed individuals' last employment was typical of employment earlier in their life. Ideally, we would have amended this variable based on data on the length of time each individual had spent in their last employment, but no data was available for us to do this.

## REFERENCES

- Ackers, L. and Dwyer, P. (2004) Fixed laws, fluid lives: the citizenship status of post-retirement migrants in the European Union. *Ageing and Society*, **24** (3): 451–75.
- Becker, G.S. (1957) *The Economics of Discrimination*, 2nd edn. Chicago IL: University of Chicago Press.
- Böhhning, W.R. (1972) *The Migration of Workers in the United Kingdom and the European Community*. London: Oxford University Press.
- Bolzmann, C., Poncioni-Derigo, R., Vial, M. and Fibbi, R. (2004) Older labour migrants' wellbeing in Europe: the case of Switzerland. *Ageing and Society*, **24** (3): 411–29.
- Börsch Supan, A. and Jürges, H. (2005) *The Survey of Health, Ageing and Retirement in Europe – Methodology*. Mannheim, Germany: Mannheim Research Institute for the Economics of Ageing (MEA).
- Bridgen, P. and Meyer, T. (2005) When do benevolent capitalists change their mind? Explaining the retrenchment of final salary pensions in Britain. *Social Policy and Administration*, **39** (7): 764–85.
- Bridgen, P. and Meyer, T. (2018) Diminished citizenship: how retirement in the host country affects the financial status of intra-EU migrants. *Ageing and Society*, **39** (3): 465–87.
- Castles, S. and Kosack, G. (1973) *Immigrant Workers and Class Structure in Western Europe*. London: Oxford University Press.
- Castles, S., Booth, H. and Wallace, T. (eds) (1984) *Here for Good: Western Europe's New Ethnic Minorities*. London and Sydney: Pluto Press.
- Cebolla-Boado, H., Miyar-Busto, M. and Muñoz-Comet, J. (2015) Is the Spanish recession increasing inequality? Male migrant-native differences in educational returns against unemployment. *Journal of Ethnic and Migration Studies*, **41** (5): 710–28.
- Chiswick, B. (2005) The economic progress of immigrants: some apparently universal patterns. In *The Economics of Immigration*. Cheltenham, UK and Northampton, MA, USA: Edward Elgar Publishing, pp. 357–99.
- Comet, J.M. (2014) Into which jobs do the unemployed move? Differences between Spaniards and foreigners in a changing economy (Qué trabajos ocupan quienes abandonan el desempleo? Diferencias

- entre españoles y extranjeros en un contexto de cambio económico). *Revista Internacional De Sociología*, **72** (2): 353–74.
- Constant, A. and Massey, D.S. (2002) Self-selection, earnings and out-migration: a longitudinal study of immigrants to Germany. IZA Discussion Paper No. 672, IZA, Bonn.
- Constant, A. and Massey, D.S. (2005) Labor market segmentation and the earnings of German guest-workers. *Population Research and Policy Review*, **24**: 489–512.
- Cortes, K.E. (2004) Are refugees different from economic immigrants? Some empirical evidence on the heterogeneity of immigrant groups in the United States. *Review of Economics and Statistics*, **86** (2): 465–80.
- De Arcangelis, G.D. and Joxhe, M. (2015) How do migrants save? Evidence for the British Household Panel Survey on temporary and permanent migrants versus natives. *IZA Journal of Migration*, **4** (11): 1–23.
- de Coulon, A. and Wolff, F.-C. (2005) Immigrants at retirement: stay/return or ‘va-et-vient’? CEP Discussion Paper No. 691, Centre for Economic Performance, LSE, London.
- Dustmann, C. (1996) Return migration: the European experience. *Economic Policy*, **22**: 215–50.
- Dustmann, C. and Fabbri, F. (2003) Language proficiency and the labor market performance of immigrants in the United Kingdom. *The Economic Journal*, **113** (489): 695–717.
- Dustmann, C. and Kirchkamp, O. (2000) The optimal migration duration and economic activities after return migration. *Journal of Development Economics*, **67**: 351–72.
- Ebbinghaus, B. (ed.) (2010) *Varieties of Pension Governance: Pension Privatization in Europe*. Oxford: Oxford University Press.
- Edin, P., LaLonde, R.J. and Åslund, O. (2000) Emigration of immigrants and measures of immigrant assimilation: evidence from Sweden. *Swedish Economic Policy Review*, **7**: 163–204.
- European Commission (2014) Amended proposal for a Directive of the European Parliament and of the Council on minimum requirements for enhancing worker mobility by improving the acquisition and preservation of supplementary pension rights (presented by the Commission pursuant to Article 250 (2) of the EC Treaty) /\* COM/2007/0603 final – COD 2005/0214 \*/. Available at [http://eur-lex.europa.eu/legal-content/EN/ALL/;ELX\\_SESSIONID=8fXBTQ9pq37Jy4X7Sdb3HCv9XF2WhRqfLVL91YhnJdLHsbVl8pLy!-406317717?uri=CELEX:52007PC0603](http://eur-lex.europa.eu/legal-content/EN/ALL/;ELX_SESSIONID=8fXBTQ9pq37Jy4X7Sdb3HCv9XF2WhRqfLVL91YhnJdLHsbVl8pLy!-406317717?uri=CELEX:52007PC0603) (accessed March 2018).
- European Parliamentary Research Service (2015) Asylum in the EU; facts and figures. Available at <https://epthinktank.eu/2015/04/14/asylum-in-the-eu-facts-and-figures/> (accessed March 2016).
- Eurostat (2018) Population by sex, age group and citizenship [migr\_pop1ctz]. Available at [http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=migr\\_pop1ctz&lang=en](http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=migr_pop1ctz&lang=en) (accessed February 2019).
- Ganga, D. (2006) From potential returnees into settlers: Nottingham’s older Italians. *Journal of Ethnic and Migration Studies*, **32** (8): 1395–413.
- Ginn, J. (2003) *Gender, Pensions and the Lifecourse: How Pensions Need to Adapt to Changing Family Forms*. Bristol: Policy Press.
- Giri, A. (2018) From refuge to riches? An analysis of refugees’ wage assimilation in the United States. *International Migration Review*, **52** (1): 125–58.
- Green, A.E., Owen, D., Jones, P., Owen, C., Francis, J., and Proud, R. (2008) *Migrant Workers in the South East Regional Economy*. Final report, July. Warwick Institute for Employment Research, bmg research.
- Hall, M. and Farkas, G. (2008) Does human capital raise earnings for immigrants in the low-skill labor market? *Demography*, **45** (3): 619–39.
- Hall, R. and White, P. (eds) (1995) *Europe’s Population: Towards the Next Century*. London: UCL Press.
- Heckmann, F. (1985) Temporary labor migration or immigration? ‘Guestworkers’ in the Federal Republic of Germany. In R. Rogers (ed.), *Guests Come to Stay. The Effect of European Labor Migration on Sending and Receiving Countries*. Boulder, CO: Westview Press, pp. 69–84.
- Holzmann, R. and Koettl, J. (2011) Portability of pension, health, and other social benefits: facts, concepts, issues. Social Protection Discussion Papers 62725. Available at <http://ideas.repec.org/p/wbk/hdnpu/62725.html> (accessed March 2018).
- Hunter, A. (2011) Theory and practice of return migration at retirement: the case of migrant worker hostel residents in France. *Population, Space and Place*, **17** (2): 179–92.

- Kanas, A. and van Tubergen, F. (2009) The impact of origin- and host-country schooling on the economic performance of immigrants. *Social Forces*, **88** (2): 893–915.
- King, R., Shuttleworth, I. and Walsh, J. (1996) Ireland: the human resource warehouse of Europe. In P. Rees (ed.), *Population Migration in the European Union*. Chichester: Wiley, pp. 207–29.
- Klinthäll, M. (2003) *Return migration from Sweden 1968–1996: A Longitudinal Analysis*. Stockholm: Almqvist and Wiksell International.
- Klinthäll, M. (2006) Retirement return migration from Sweden. *International Migration*, **44** (2): 153–78.
- Luijk, M.A., Emilsson, H., and Bevelander, P. (2018) The male immigrant-native employment gap in Sweden: migrant admission categories and human capital. *Journal of Population Research*, **35** (4): 363–98.
- Merkle, L. and Zimmerman, K.F. (1992) Savings, remittances, and return migration. *Economic Letters*, **38**: 77–81.
- Meyer, T., Bridgen, P., and Andow, C. (2012) Free movement? The impact of legislation, benefit generosity and wages on the pensions of European migrants. *Population, Place and Space*, **19** (6): 714–26.
- OECD Stat (2018) Annual average wages. Available at [https://stats.oecd.org/Index.aspx?DataSetCode=AV\\_AN\\_WAGE](https://stats.oecd.org/Index.aspx?DataSetCode=AV_AN_WAGE) (accessed February 2019).
- Peach, C. (1968) *West Indian Migration to Britain: A Social Geography*. London: Oxford University Press.
- Ogden, P.E. (1989) International migration in the nineteenth and twentieth centuries. In P.E. Ogden and P.E. White (eds), *Migrants in Modern France: Population Mobility in the Later Nineteenth and Twentieth Centuries*. London: Unwin Hyman, pp. 34–59.
- Peach, C. (1997) Postwar migration to Europe: reflux, influx, refuge. *Social Science Quarterly*, **78** (2): 269–83.
- Piore, M.J. (1979), *Birds of Passage: Migrant Labor in Industrial Societies*. Cambridge: Cambridge University Press.
- Poulain, M. and Perrin, N. (2002) The demographic characteristics of immigrant populations in Belgium. In W. Haug, P. Compton, Y. Courbage et al. (eds), *The Demographic Characteristics of Immigrant Populations*. Strasbourg: Council of Europe Publishing, pp. 57–129.
- Powers, M.G. and Seltzer, W. (1998) Occupational status and mobility among undocumented immigrants by gender. *International Migration Review*, **32**: 21–55.
- Ruiz, I. and Vargas-Silva, C. (2017) Are refugees' labour market outcomes different from those of other migrants? Evidence from the United Kingdom in the 2005–2007 period. *Population, Space and Place*, **23** (6): 1–15.
- Ruiz, I. and Vargas-Silva, C. (2018) Differences in labour market outcomes between natives, refugees and other migrants in the UK. *Journal of Economic Geography*, **18** (4): 855–85.
- Salt, J. and Clout, H. (eds) (1976) *Migration in Post-War Europe: Geographical Essays*. London: Oxford University Press.
- Sjaastad, L.A. (1962) The costs and returns of human migration. *Journal of Political Economy*, **70** (5 part two): 80–93.
- Stark, O. (1991) *The Migration of Labor*. Cambridge and Oxford: Blackwell.
- Taylor, J.E. (1999) The new economics of labour migration and the role of remittances in the migration process. *International Migration*, **37** (1): 63–88.
- Taylor, J.E., Rozelle, S. and de Brauw, A. (2003) Migration and incomes in source communities: a new economics of migration perspective from China. *Economic Development and Cultural Change*, **52** (1): 75–101.
- Vlachantoni, A., Feng, F., Evandrou, M. and Falkingham, J. (2017) Ethnic elders and pension protection in the United Kingdom. *Ageing and Society*, **37**: 1025–39.
- Warnes, A.W. (2007) Migration, older people and social policy. In K. Clarke, T. Maltby and P. Kennett (eds), *Social Policy Review 19. Analysis and Debate in Social Policy, 2007*. Bristol: Policy Press, pp. 293–316.
- Zwysen, W. (2019) Different patterns of labor market integration by migration motivation in Europe: the role of host country human capital. *International Migration Review*, **53** (1): 58–89.

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## 20. Employment history and later life satisfaction among three cohorts in the UK: unravelling the mediating pathways of pension security, housing tenure and health

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### 20.1 INTRODUCTION

By the late 20th century, it had become widely accepted that there is more to human life than just material fulfilment. As a result of the growing dissatisfaction with economic measures of wellbeing, most notably gross domestic product (GDP), in February 2008 Nicolas Sarkozy asked Nobel laureates Joseph Stiglitz and Amartya Sen, along with French economist Jean-Paul Fitoussi, to establish a Commission in order to consider better ways of measuring social progress. Their report published in 2009 advocated for the greater use of subjective measures of wellbeing for designing policies and assessing societal progress (Stiglitz et al., 2009). As a result, a range of social indicators have supplemented the traditional economic measures with life satisfaction emerging as a key indicator of subjective wellbeing, reflecting an overall assessment of feelings and attitudes about one's life. The UK has been collecting national life satisfaction statistics since 2010 (Office for National Statistics, 2018), and other nations such as Germany and Australia have ongoing large, longitudinal panel studies in which life satisfaction is tracked over time (Diener, 2000).

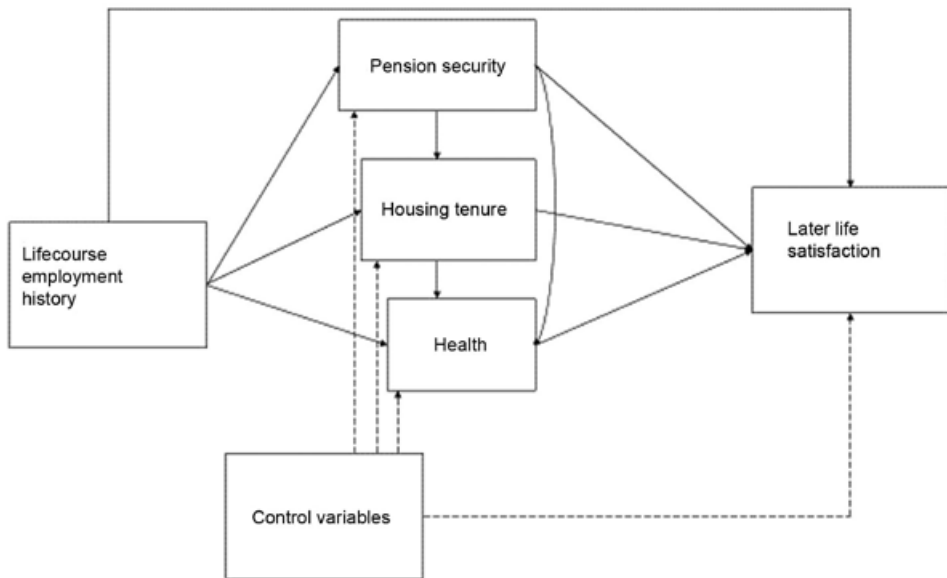
Recent research using data from the Survey of Health and Retirement in Europe (SHARE) has highlighted the important role of continuous work histories for quality of life at older ages in Europe (Wahrendorf, 2015). Over the past two decades, however, there has been an observed trend across Europe, including the UK, towards increasing labour market insecurity, with, for example, a rise in self-employment, temporary contracts, part-time jobs, short-tenure jobs and zero-hours contract working and a decline in the number of people saving into occupational pension schemes (Department for Work and Pensions, 2013a; Gregg and Gardiner, 2015). Given the link between employment histories and later life satisfaction, an important question arises as to whether such insecurity leads to poorer wellbeing as measured by life satisfaction amongst future cohorts of elders, and if so, how. This chapter explores the links between employment, pensions, housing and health in order to shed new light on the relationship between lifecourse employment history and later life subjective wellbeing, and the potential pathways in between. To the best of our knowledge, this is the first attempt to holistically examine the relationship between lifecourse employment history and later life subjective wellbeing in the UK, and thus makes an important contribution to the academic literature as well as the evidence base for policy.

## 20.2 CONCEPTUAL FRAMEWORK

Empirical studies have shown that at one point of time employment is associated with life satisfaction in a range of ways. As well as being directly related to income, work can also provide important psychosocial benefits including a sense of belonging to a social network, a sense of control and autonomy and a sense of reward (Department of Health, 2014). Cross-sectional studies show that individuals in unemployment tend to report lower levels of wellbeing than those in employment (Bambra and Eikemo, 2009). Those with greater job security and better job quality tend to have higher levels of wellbeing (Domenighetti et al., 2000), while individuals claiming Job Seekers' Allowance report poorer mental health than the general population (Department of Health, 2014).

The lifecourse approach explicitly recognises that changes over time will play a key role in shaping micro- and macro-level factors affecting wellbeing in older age, with events earlier in the lifecourse shaping later life outcomes (Fulle-Iglesias et al., 2009). Recent longitudinal studies have found that adverse physical working conditions or involuntary job loss have long-term consequences for individuals' health and quality of life at older ages (Platts et al., 2013; Schröder, 2013). A study examining individuals' employment trajectories and later quality of life found that mixed work histories for women and regular employment histories with late retirement for men are associated with the highest quality of life in old age (Wahrendorf, 2015). In contrast, early retirement, or a history of 'taking care of the home' for women, are related to lower quality of life (Wahrendorf, 2015). However, the exact pathways whereby earlier work histories affect later life wellbeing are not well quantified, and altogether it is postulated that this relationship may be reflecting different levels of occupational hazards, financial circumstances after retirement (especially pensions) and access to favourable housing conditions (Wahrendorf, 2015; Wahrendorf et al., 2013). Drawing upon this existing body of work, in this chapter we put forward the following conceptual framework which links individuals' lifecourse employment history and later life satisfaction via the pathways of pension security, housing tenure and health (Figure 20.1).

Pension security has been found to be important for older people's subjective wellbeing. For instance, Olivera and Ponomarenko (2017) found a negative association between pension insecurity and subjective wellbeing. Those individuals who are more affected by pension insecurity are those who are further away from their retirement, have a lower income and do not expect private pension payments (Olivera and Ponomarenko, 2017). In the UK, occupational/private pensions have been critical in securing financial adequacy for older people due to a relatively low-value state pension (Vlachantoni et al., 2017). However, the likelihood of being in receipt of an occupational/private pension is related to prior labour market participation. Some disadvantaged groups, for example, women, members of some black and minority ethnic groups and those in low pay jobs are all less likely to be members of an occupational pension scheme and are less likely to be saving for a private pension (Bardasi and Jenkins, 2010; Foster, 2013; Vlachantoni et al., 2017), while those with predominantly full-time employment have significantly higher incomes in later life (Sefton et al., 2011). Given this literature, it might be expected that respondents with certain types of employment trajectories may be at a disadvantage in terms of receiving an occupational/private pension when they reach later life and that this in turn may influence their later life satisfaction. Thus, our first working hypothesis is that pension security will mediate the association between lifecourse employment history and later life satisfaction.



Source: Authors' conceptualisation.

Figure 20.1 *Conceptual framework of hypothesised pathways of the effect of lifecourse employment history on later life satisfaction*

Home ownership provides older people with various important social and economic benefits such as increased security, neighbourhood stability, social involvement and a greater sense of control and belonging (Dietz and Haurin, 2003). Previous research indicates a positive relationship between home ownership and life satisfaction (Rohe et al., 2000; Zumbro, 2014). However, employment insecurity may impede the entry into home ownership. In highly marketised housing provision systems, where mortgages are readily available to those in secure employment, the negative effect of employment insecurity on the transition into home ownership may be accentuated as a stable labour income is needed in order to accumulate the necessary down-payment in order to purchase housing (Lersch and Dewilde, 2015). Thus, it might be expected that respondents with certain types of employment trajectories may be at a disadvantage in terms of owning their own house and that this in turn may influence their later life satisfaction. Thus, our second working hypothesis is that housing tenure will mediate the association between work history and later life wellbeing.

A number of studies have shown that life satisfaction is related to health outcomes such as self-reported health and health behaviours. As the level of life satisfaction decreases, the prevalence of fair/poor general health and disability increases (Bambra and Eikemo, 2009). Previous studies have also found that work histories are associated with later life health; for example, women who experience full-time work both before and after focusing on family life are likely to have the most favourable later life health outcomes (Stone et al., 2015). Employment history may also be related to health-risk behaviours, in particular, in the case of



unstable careers of men (Head et al., 2004). Thus, our third working hypothesis is that health will mediate the association between employment history and later life satisfaction.

There are, however, also relationships between individuals' pension income, housing tenure and health. The combination of home ownership and a private pension reduces the risk of insufficient income in later life in comparison to having just one or the other (Banks et al., 2004). Having access to a higher income brings both consumption and status benefits to an individual (Clark et al., 2007). By contrast, inadequate housing conditions are known to have a significant impact on health outcomes, and there is a known social gradient in both housing quality and for housing-associated health outcomes (Braubach and Savelsberg, 2009). Thus, we might expect the pathways to interact with one another, for example, pension security may affect later life satisfaction directly and also indirectly through health; similarly, housing tenure may be directly associated with life satisfaction and may also operate indirectly through its relationship with health; finally, pension security may impact individuals in terms of both their housing and health. Our fourth working hypothesis is therefore that the association between lifecourse employment history and later life satisfaction is mediated by complex pathways combining individuals' pension security, housing tenure and health.

A number of other characteristics have also been found to be associated with life satisfaction, including a range of demographic factors (Baird et al., 2010; Dolan et al., 2008; Gana et al., 2013). Numerous studies on life satisfaction have found a U-shaped curve with age; with higher levels of wellbeing at the younger and older age points, and the lowest life satisfaction occurring in middle age. Women tend to report higher happiness than men. However, when specific subsets are examined, such as individuals who cannot work due to health problems or those who provide informal care for others, the gender effect disappears. Family and friends, for example, being married and having intimate relationships, as well as having children are also associated with life satisfaction. Therefore, in our conceptual model in Figure 20.1 we include a range of control variables in order to capture the respondents' age, partnership and other personal characteristics.

To summarise our contribution, existing studies examining the relationship between employment history and later life satisfaction have mainly been based on the characteristics of employment history such as frequent job changes or periods of unemployment (Bartley and Plewis, 2002; Wahrendorf et al., 2012) and few studies have examined the entire lifecourse employment trajectories. Even fewer studies have explored the mechanisms or pathways by which earlier work histories influence later life wellbeing. In order to fill such research gaps, this study aims (1) to identify the patterns of early adult trajectories (aged between 20 and 60 years) in three younger-old cohorts born in 1940–44, 1945–49 and 1950–54, using retrospective longitudinal information on individuals' work history; (2) to examine the extent to which late life satisfaction is associated with earlier employment trajectories; (3) to test whether such associations are mediated by individuals' pension security, housing ownership and health. The hypotheses of this study are formulated as follows:

*Hypothesis 0: Lifecourse employment history is associated with later life satisfaction.*

*Hypothesis 1: The association between lifecourse employment history and later life satisfaction is mediated by pension security.*

*Hypothesis 2: The association between lifecourse employment history and later life satisfaction is mediated by housing tenure.*

*Hypothesis 3: The association between lifecourse employment history and later life satisfaction is mediated by health.*

*Hypothesis 4: The association between lifecourse employment history and later life satisfaction is mediated by complex pathways involving interactions between pension security, housing tenure and/or health.*

### 20.3 DATA AND METHODS

This study analyses data from the United Kingdom Household Longitudinal Study (UKHLS). The UKHLS has been collected since 2009, and its aim is to improve understanding of social and economic change in Britain at household and individual levels (Jessop, 2015). The study began with a representative probability sample of over 40,000 households. The sample for the first wave of the study consists of two groups: the General Population (GP) sample, selected from the Postcode Address File in Great Britain and the Land and Property Services Agency list of domestic properties in Northern Ireland; and a boost sample of minority ethnic groups. A third sample group, the Innovation Panel (IP) consists of 1,500 households. The IP is a forerunner to the main UKHLS survey and was conducted 12 months before the start of wave 1. The IP is designed to allow methodological research to inform the fieldwork process for the main stages of the survey. Adult household members (age 16 or older) are interviewed face-to-face (with the Self-Completion Modules such as the Satisfaction Module) and/or telephone interviews, and the same individuals are re-interviewed in successive years to see how things have changed. The data consists of a wide range of investigations (see also Chapter 8 in this volume). Wave 5, collected in years 2013 to 2015, includes a module collecting retrospective working history data, providing the opportunity to examine the full employment careers of men and women aged 60 and over.

The analytical sample for the chapter is restricted to respondents aged 61–75 in the years between 2013 and 2015, representing the three birth cohorts born in 1940–44, 1945–49 and 1950–54. The choice of the lower age of 61 reflects the fact that during the period of study eligibility for the public state pension age was 60 for women and 65 for men (Department for Work and Pensions, 2013b). The upper age limit of 75 was chosen to minimise the impact of changes in happiness related to age. According to recent data for the UK, the pattern of happiness among adults is U-shaped: it is high in the late teens, declining to a nadir in the 45–49 age group, then rising again in the late 60s and 70s (Hawkes, 2012); thus, we have chosen this age range in order to minimise the potential of any non-monotonically increasing or decreasing age effect (Graham and Pozuelo, 2017). It is noted that the range of ages 61–75 may include some early exits from the labour market prior to the public state pension age amongst men; it may also include potential labour market involvements beyond the state pension age. The employment trajectories are, however, limited to periods of employment between ages 20 to 60.

The fifth wave of the UKHLS includes employment history data from 97,933 men and women aged 16 and above. Of these, 3,490 were aged 61–75 at the time of the retrospective interview and have complete information on employment histories, consisting of 1,626 men and 1,864 women ( $n = 3,490$ ).

### 20.3.1 Measurements

#### 20.3.1.1 Lifecourse employment history trajectories

The UKHLS asked respondents about all periods in or out of employment since they left full-time education, even if such periods only lasted for a month. Each period was then classified according to whether the respondent was in paid employment or otherwise engaged in doing things such as looking after the family, being in education or unemployed and looking for work. The options being in or out of employment for each period include 12 states: self-employed, full-time employed, unemployed, retired, on maternity (or paternity) leave, looking after family or home, full-time student/at school, long-term sick or disabled, on a government training scheme, national service/war service, and something else.

#### 20.3.1.2 Overall life satisfaction

Respondents were asked to score their own satisfaction of life using a 7-point scale, from 1 (very unsatisfied) to 7 (very satisfied). Thus, a higher score is indicative of a high level of life satisfaction (LS). Research shows that such LS scales reflect the quality of respondents' lives in a valid manner (Diener et al., 2013). Sociologists and psychologists usually consider the LS score as cardinal and comparable across respondents, and thus run ordinary least squares (OLS) regressions on LS and changes in LS; economists usually assume that the variable is ordinal and mainly use ordered latent response models. One recent study found that assuming cardinality or ordinality of LS scores makes little difference in results (Ferrer-i-Carbonell and Frijters, 2004). For the purposes of the analysis here, the LS scale was treated as a continuous (that is, cardinal or interval) variable.

### 20.3.2 Mediating Factors

Three mediator factors can be affected by individuals' lifecourse employment history, and by extension, can affect individuals' feeling of life satisfaction in later life.

*Pension security* was measured by whether the individual was currently in receipt of an occupational or private pension. It equals 1 if yes; and 0 if not.

*Housing tenure* was captured by three categories in the UKHLS: home owned outright, home owned with a mortgage, and home rented. In the multivariate pathway analysis, given that Mplus only allows binary mediators, we elected to combine home owned outright and with a mortgage as one subgroup, given that owner occupiers enjoy greater security of tenure. The measurement equals 1 if respondents are home owners and 0 if they are renters.

*Health status* was measured by self-rated general health, which has five options in the UKHLS: excellent, very good, good, fair and poor. We combined excellent, very good and good as one subgroup, contrasted against another combined subgroup including fair or poor health. Health equals 1 if the respondents reported excellent, very good or good health; and 0 if they reported fair or poor health.

### 20.3.3 Control Variables

The control variables used in the multivariate pathway analysis reflect demographic characteristics (age and gender), familial network (marital status and number of children), current working status and rural/urban residence.

#### 20.3.4 Analytical Plan

The analyses were carried out in two stages. First, we applied sequence analysis in order to group similar earlier life employment histories into empirically distinct clusters. More specifically, the individual sequences were compared and the differences between each single sequence were calculated. Several alternative techniques or ‘distance measures’ exist, where differences are calculated in terms of the specific ‘costs’ required to turn one sequence into another. These costs increase by substituting one state with another (substitution cost) or deleting and/or inserting one state into a sequence (Halpin, 2012). For our analyses, Lesnard’s dynamic hamming distances were used (Lesnard, 2010). This considers the time dimension or ‘calendar’ in the data, as well as the transitions from one state to another, allowing the costs to vary over time, for example, there is a lower probability of moving from full-time employment to retirement when the respondent is younger. More specifically, ‘costs’ are defined on the basis of transition rates for each time-point (age) separately, and not defined and fixed by the researcher but rather reflect the actual sequences in the data. Different cluster solutions were compared, with an eight-cluster solution allowing the identification of meaningful clusters. Calculations and graphs were based on the SADI-package and the sq-Package in Stata (Brzinsky-Fay et al., 2006; Halpin, 2014).

In the second stage, we conducted path-analysis in order to examine the pathways between lifecourse employment history cluster membership produced in the first stage and later life satisfaction, with a set of mediating variables guided by the conceptual framework (Figure 20.1). Path-analysis was performed by fitting a set of regression equations under the assumption that the model is not affected by unmeasured confounding (De Stavola et al., 2014). The analysis focuses on the effects of interest, that is, the indirect effects via the mediator variables. In the results section, Figure 20.3 presents the un-standardised coefficients for each direct path within the models (all adjusted for sex, age, marital status, number of children, current job status and rural/urban residence). These were either based on probit regression models (when studying the path between employment history and mediator binary variables) or on linear regressions (when studying effects on life satisfaction score). Two goodness-of-fit indices, the Comparative Fit Index (CFI) and the Root Mean Square Error of Approximation (RMSEA), each related to a specific aspect of the model, were used to quantify the degree of correspondence between the model and the data (Muthén and Muthén, 2017). The CFI compares the model’s fit to an independent model (with uncorrelated variables), with a higher value indicating a better fit. A CFI above 0.95 indicates a good fit. The RMSEA is an index of model fit where 0 indicates a perfect fit, implying that lower scores are preferred. The goal is a model with an RMSEA of less than 0.05, although there is some flexibility (Muthén and Muthén, 2017). Indirect effects were computed by multiplying the relevant path coefficients. The statistical significance was considered at the 5 per cent level and the analysis was performed using Mplus 8 (Muthén and Muthén, 2017), which allows for estimating pathway models with categorical as well as continuous variables.

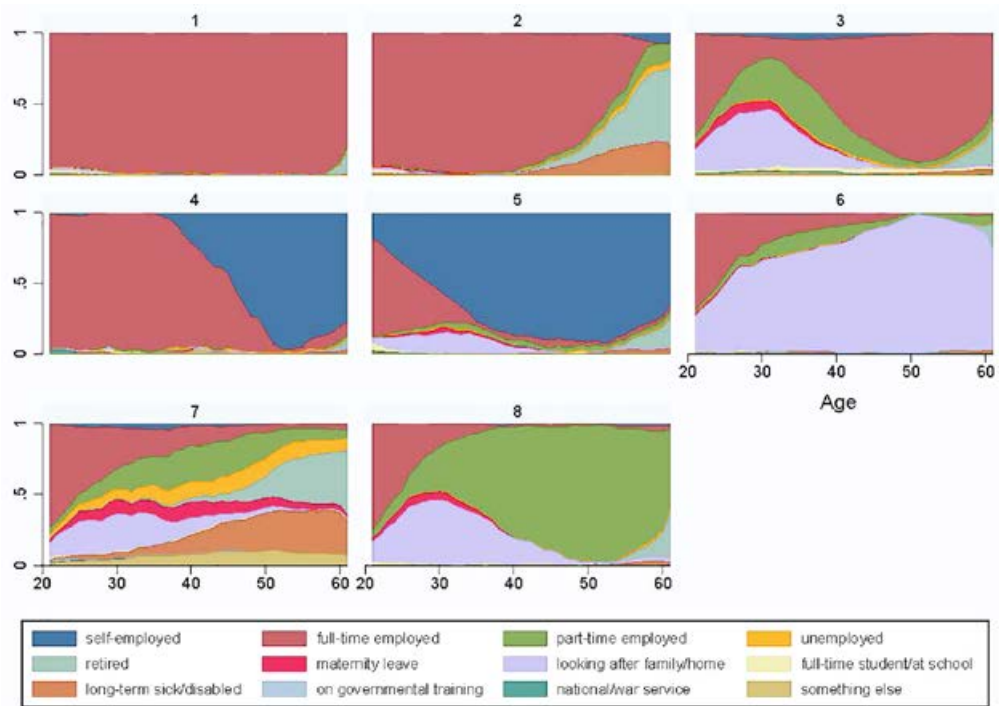
## 20.4 RESULTS

### 20.4.1 Employment Trajectories amongst Those Aged 61–75

Figure 20.2 shows a summary of the lifecourse trajectories of economic activity experienced by individuals in each of the eight clusters. Cluster 1 (full-time employed) shows a group who spent the majority of their working lives in full-time employment; Cluster 2 (early retirement) is a group who spent most of their working lives as full-time employed, but retired before age 60; Cluster 3 (full-time returning) shows a group who experienced a period looking after a home/family, but then returned to full-time work; Cluster 4 (full-time-employed-to-self-employed) is a group who spent more than 20 years of their working lives as full-time employed and then switched to being self-employed; Cluster 5 (self-employed) is a group of respondents who spent most of their working lives being self-employed; Cluster 6 (family caring) is a group who spent the majority of their lives looking after a home/family; Cluster 7 (inactive/atypical) is a group without a clear pattern of employment experiences, but with a small subgroup of long-term sick/disabled persons; and finally, Cluster 8 (part-time returning) is a group who experienced a period looking after a home/family, and then returned to part-time work. Thus, the clusters are named as follows: Cluster 1 (36.6 per cent): full-time employed; Cluster 2 (13.6 per cent): early retirement; Cluster 3 (15.6 per cent): full-time returning; Cluster 4 (2.6 per cent): full-time employed/self-employed; Cluster 5 (5.6 per cent): self-employed; Cluster 6 (6.2 per cent): family caring; Cluster 7 (6.9 per cent): inactive/atypical; Cluster 8 (13.0 per cent): part-time returning.

Table 20.1 comprises a summary of the descriptive characteristics of the eight clusters. There is significant difference amongst the eight clusters in terms of gender composition, whether receiving an occupational/private pension, housing tenure and health status, but no significant difference in the cohort composition. Not unexpectedly, women account for a higher proportion in the part-time returning, family caring, full-time returning and inactive/atypical clusters, while men account for a higher proportion in the full-time-employed-to-self-employed, full-time employed, early retirement and self-employed clusters. A higher proportion of respondents among those whose employment trajectories were classified as early retirement and full-time employed currently receive an occupational/private pension; the lowest proportion of receiving this type of pension was found among individuals clustering in the family caring and inactive/atypical groups. Older people whose employment trajectories were classified as family caring and inactive/atypical have a higher proportion of renters compared to other categories. Respondents clustering in the full-time-employed-to-self-employed and the part-time returning groups report a positive health status, while those clustering in the inactive/atypical and early retirement categories tend to have poor health.

Table 20.2 compares the mean score and standard deviation for the measure of life satisfaction for each of the model variables, along with the significance test for the bi-variate relationship. It shows that respondents clustering in the 'part-time returning' group have the highest score of later life satisfaction, followed by those clustering in the full-time employed and the full-time-employed-to-self-employed groups. Those in the inactive/atypical group appear to have the lowest score of later life satisfaction. In line with our prior expectations, respondents who currently receive an occupational/private pension have a relatively higher score of life satisfaction compared with those not receiving this type of pension. Individuals who own their home outright have a much higher score of life satisfaction than those who



Note: Total sample size is 3,490.  
 Source: Authors' analysis of UKHLS wave 2013–15.

Figure 20.2 Chronograms of clusters of lifecourse employment histories among three cohorts in the UK

rent. Respondents with a positive health status have a much higher satisfaction score than those with fair or poor health. From a cohort perspective, the older age cohort has a relatively higher satisfaction score than the younger age cohort. There is no difference in the mean life satisfaction score between older men and women. Currently, married persons have a higher score than those who are never married or divorced, while older people with one or two children have a higher score than those with no children, or with more than three children. Older people who are currently self-employed or who retired have a higher score than those who are employees. Finally, individuals living in a rural area have a higher score of life satisfaction than their urban counterparts.

The un-standardised path coefficients of the path-analysis are illustrated in Figure 20.3 and summarised in Table 20.3. Their magnitude and direction demonstrate the inter-relationships between the variables included in the pathways (Figure 20.3). A positive coefficient means that an increase in the predictor leads to an increase in the predicted probability ( $\beta_{a1}$ – $\beta_{a7}$ ,  $\beta_{b1}$ – $\beta_{b7}$ ,  $\beta_{c1}$ – $\beta_{c7}$ ,  $\beta_d$ ,  $\beta_e$ ,  $\beta_f$ ), or an increase in the predicted life satisfaction score ( $\beta_g$ ,  $\beta_h$ ,  $\beta_i$ ). A negative coefficient means that an increase in the predictor leads to a decrease in the predicted probability, or a decrease in the predicted life satisfaction score. As hypothesised, the path-model showed a significant indirect effect of lifecourse employment history on later

Table 20.1 *Cluster characteristics*

	Lifecourse employment history trajectory cluster								Total	p value
	1	2	3	4	5	6	7	8		
	Full-time employed	Early retirement	Full-time returning	Full time employed/ self-employed	Self-employed	Family caring	Inactive/atypical	Part		
Per cent of sample	36.6	13.6	15.6	2.6	5.6	6.2	69	13.0	100	
Per cent of female	23.3	31.4	90.8	13.6	39.2	95.4	79.1	98.0	53.4	***
Per cent of cohort:										
1950–54	32.7	35.6	32.3	37.5	33.2	35.0	37.2	30.4	33.3	
1945–49	38.3	37.1	41.2	42.0	35.2	36.0	39.7	38.7	38.5	
1940–44	29.0	27.3	26.5	20.5	31.7	28.9	23.1	30.9	28.1	
Per cent receiving an occupational/private pension	67.8	71.9	64.3	62.5	47.2	24.9	41.9	50.9	60.1	***
Per cent of housing tenure:										
Own house outright	67.2	65.0	61.8	59.1	67.3	60.4	60.7	74.4	66.0	***
Mortgaged house	15.4	11.5	18.5	29.5	15.6	9.1	11.1	10.9	14.5	
Rent house	17.4	23.5	19.7	11.4	17.1	30.5	28.2	14.7	19.5	
Per cent of self-rated health:										
Excellent/very good/good	76.3	55.8	78.9	86.4	75.4	61.9	57.3	80.0	72.5	***
Fair	18.1	27.7	15.8	12.5	16.6	26.4	23.9	16.0	19.4	
Poor	5.6	16.6	5.3	1.1	8.0	11.7	18.8	4.0	8.1	

Note: \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001. Total sample size is 3,490.  
Source: Authors' analysis of UKHLS wave 2013–15.

Table 20.2 *Lifecourse employment history, demographic background and life satisfaction*

	N	%	Mean	(SD)	p values
<i>Lifecourse employment history</i>					***
Full-time employed	1282	36.7	5.32	1.52	
Early retirement	477	13.7	4.91	1.65	
Full-time returning	563	16.1	5.19	1.54	
Full-time-employed-to-self-employed	88	2.5	5.32	1.34	
Self-employed	199	5.7	5.26	1.58	
Family caring	197	5.6	4.86	1.60	
Inactive/atypical	234	6.7	4.84	1.72	
Part-time returning	450	12.9	5.45	1.41	
<i>Receiving an occupational/private pension</i>					***
No	3264	93.5	5.00	1.63	
Yes	226	6.5	5.33	1.50	
<i>House tenure</i>					***
Own house outright	2302	66.0	5.36	1.51	
Mortgaged house	506	14.5	5.10	1.49	
Rent house	682	19.5	4.71	1.68	
<i>Self-rated health</i>					***
Excellent/very good/good	2530	72.5	5.46	1.47	
Fair	677	19.4	4.72	1.52	
Poor	283	8.1	3.99	1.66	
<i>Cohort</i>					***
1950–54	1163	33.3	5.04	1.57	
1945–49	1345	38.5	5.21	1.58	
1940–44	982	28.1	5.36	1.50	
<i>Sex</i>					0.655
Male	1626	46.6	5.21	1.55	
Female	1864	53.4	5.19	1.57	
<i>Marital status</i>					***
Married	2355	67.5	5.28	1.55	
Never married	216	6.2	4.99	1.51	
Divorced	602	17.2	5.00	1.56	
Widowed	315	9.0	5.13	1.63	
<i>Number of children</i>					**
0	518	14.8	5.09	1.60	
1	415	11.9	5.29	1.54	
2	1503	43.1	5.29	1.52	
3+	1054	30.2	5.09	1.61	
<i>Current working status</i>					***
Retired	2374	68.0	5.28	1.54	
Employee	669	19.2	5.21	1.48	
Self-employed	202	5.8	5.28	1.56	



	N	%	Mean	(SD)	p values
Others	245	7.0	4.30	1.72	
<i>Rural/urban residence</i>					
Urban	2472	70.8	5.14	1.59	***
Rural	1018	29.2	5.35	1.49	
Others	245	7.0	4.30	1.72	

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Total sample size is 3,490.

Source: Authors' analysis of UKHLS wave 2013–15.

life satisfaction. Indeed, being in the clusters of early retirement, self-employed, family caring, inactive/atypical and part-time returning appears to impact on individuals' later life satisfaction through occupational/private pension access, housing tenure and health status.

More specifically, after controlling for potential confounders, being in the cluster of early retirement resulted in a 0.173 decrease in later life satisfaction mediated via health (Table 20.3). Compared with those who were mostly in full-time employment, respondents in the early retirement group are less likely to report optimal health ( $\beta c1 = -0.429$ ,  $p < 0.001$ ), while optimal health leads to a higher life satisfaction score ( $\beta i = 0.403$ ,  $p < 0.001$ ), as shown in Figure 20.3. The reduction of 0.173 equals  $\beta c1 (-0.429) * \beta i (0.403)$ .

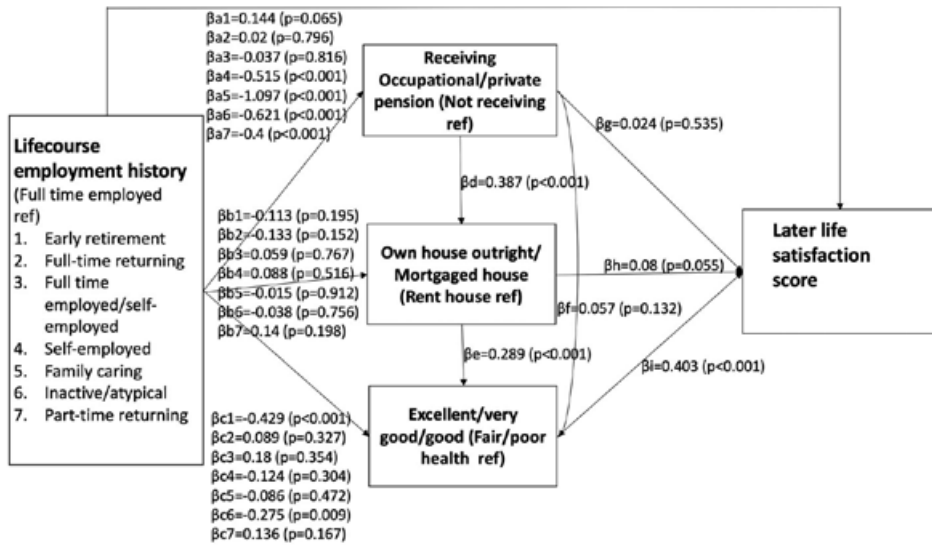
Being in the self-employed cluster resulted in a 0.023 decrease in the satisfaction score via the pathway of occupational/private pension receipt, through housing tenure, followed by health ( $\beta a4 = -0.515$ ,  $p < 0.001$ ;  $\beta d = 0.387$ ,  $p < 0.001$ ;  $\beta e = 0.289$ ,  $p < 0.001$ ;  $\beta i = 0.403$ ,  $p < 0.001$ ). Respondents in the self-employed group have a lower probability of receiving an occupational/private pension. In turn, this influences their housing tenure, followed by the health status and finally life satisfaction score.

Being in the cluster of family caring resulted in a 0.049 decrease in the later life satisfaction score (Table 20.3) mediated via the occupational/private pension path through housing tenure, followed by health (Figure 20.3) ( $\beta a5 = -1.097$ ,  $p < 0.001$ ;  $\beta d = 0.387$ ,  $p < 0.001$ ;  $\beta e = 0.289$ ,  $p < 0.001$ ;  $\beta i = 0.403$ ,  $p < 0.001$ ). Respondents in the family caring group have a lower probability of receiving an occupational/private pension, which in turn influences their housing tenure, followed by their health status and then life satisfaction.

Being in the inactive/atypical cluster resulted in a 0.111 decrease in the later life satisfaction score (Table 20.3) mediated via health (Figure 20.3) ( $\beta c6 = -0.275$ ,  $p = 0.009$ ;  $\beta i = 0.403$ ,  $p < 0.001$ ); and to a 0.028 decrease via the occupational/private pension path through housing tenure, followed by health ( $\beta a6 = -0.621$ ,  $p < 0.001$ ;  $\beta d = 0.387$ ,  $p < 0.001$ ;  $\beta e = 0.289$ ,  $p < 0.001$ ;  $\beta i = 0.403$ ,  $p < 0.001$ ). Individuals with mostly inactive/atypical working lives have a lower probability of reporting optimal health. Moreover, this group has a lower probability of receiving an occupational/private pension, which in turn influences their housing tenure followed by their health status and finally their life satisfaction score.

Being in the cluster of part-time returning resulted in a 0.018 decrease in the later life satisfaction score (Table 20.3) mediated via the occupational/private pension path through housing tenure, followed by health (Figure 20.3) ( $\beta a7 = -0.4$ ,  $p < 0.001$ ;  $\beta d = 0.387$ ,  $p < 0.001$ ;  $\beta e = 0.289$ ,  $p < 0.001$ ;  $\beta i = 0.403$ ,  $p < 0.001$ ). Respondents in the part-time returning group have a lower probability of receiving an occupational/private pension, which in turn influences their housing tenure, followed by their health status and finally their life satisfaction.

After accounting for the effects through the hypothesised pathways, there was no significant direct effect of lifecourse employment history on individuals' later life satisfaction



Note: Total sample size is 3,490.  
 Source: Authors' analysis of UKHLS wave 2013–15.

Figure 20.3 Pathway analyses of the association between lifecourse employment history and later life satisfaction mediated by receiving occupational/private pension, housing tenure and health: adjusted for control variables

(Table 20.3). Also, we observed significant direct effects of other known factors including the number of children and their current working status, while there is no age, gender, marital status or rural/urban residence difference in terms of later life satisfaction (data not shown). The goodness-of-fit indices of the pathway analysis showed a good fit between the model and the data: CFI = 1 and RMSEA = 0.000, while the R-Square for later life satisfaction = 0.132.

The above results supported the hypotheses 3 and 4, that is, the association between lifecourse employment history and later life satisfaction is mediated in complex ways including (i) by the respondents' health and (ii) by the respondents' pension security through their housing tenure and then their health. However, the findings do not support hypothesis 0, as it appears that individuals' lifecourse employment history is not directly associated with later life subjective wellbeing, but rather all the effects are indirect. The outline results did not support hypotheses 1 and 2 either, since the association between lifecourse employment history and later life satisfaction is not mediated alone neither by pension security nor by housing tenure; only health has an independent effect.

## 20.5 DISCUSSION

The promotion of wellbeing in later life is a key strategy of public policy in many developed countries including the UK. This study aims to investigate the mechanisms that link lifecourse employment history with later life satisfaction among three elder cohorts born in 1940–44,

Table 20.3 Direct and indirect effects of lifecourse employment history and later life satisfaction

Employment histories (Full-time employed ref)	Direct effect	Total indirect effect	(via) Specific indirect pathways						
			Occupational/ private pension	Housing tenure	Health	Occupational/private pension path through health	Occupational/private pension path through housing tenure	Occupational/private path through housing tenure, path through health followed by health	Housing tenure
Early retirement	-0.145	-0.177***	0.003	-0.009	-0.173***	0.003	0.004	0.006	-0.013
Full-time returning	-0.141	0.012	0.001	-0.011	0.036	0.001	0.001	0.001	-0.016
Full-time-employed-t o-self-employed	-0.138	0.079	-0.001	0.005	0.072	-0.001	-0.001	-0.002	0.007
Self-employed	-0.023	-0.096	-0.012	0.007	-0.050	-0.012	-0.016	-0.023***	0.010
Family caring	-0.193	-0.172**	-0.026	-0.001	-0.035	-0.025	-0.034	-0.049***	-0.002
Inactive/atypical	-0.165	-0.194***	-0.015	-0.003	-0.111*	-0.014	-0.019	-0.028***	-0.004
Part-time returning	0.075	0.033	-0.01	0.011	0.055	-0.009	-0.012	-0.018***	0.016

Note: \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001. Total sample size is 3,490.  
Source: Authors' analysis of UKHLS wave 2013-15.

1945–49 and 1950–54 in the United Kingdom Household Longitudinal Study (UKHLS). We first applied sequence analysis and grouped similar earlier life employment histories into empirically distinct clusters. In the second stage, a conceptual framework of hypothesised pathways through the individuals' pension security, housing tenure and health including confounders was developed and examined using path-analysis. To summarise the results, an eight-cluster was identified to best represent trajectories of lifecourse employment history, namely, full-time employed (36.6 per cent), early retirement (13.6 per cent), full-time returning (15.6 per cent), full-time-employed-to-self-employed (2.6 per cent), self-employed (5.6 per cent), family caring (6.2 per cent), inactive/atypical (6.9 per cent) and part-time returning (13.0 per cent). Older people clustering in the part-time returning group showed the highest score of later life satisfaction, followed by those clustering in the full-time employed and the full-time-employed-to-self-employed categories. The path-model showed a significant adjusted indirect effect of individuals' lifecourse employment history on their later life satisfaction via two significant pathways: (i) through their health and (ii) through their pension security, followed by housing tenure and then their health. Compared with older people with a full-employed trajectory, those clustering in the early retirement, self-employed, family caring and inactive/atypical groups showed a lower later life satisfaction score. The association between the respondents' lifecourse employment history and their later life satisfaction was fully mediated by the respondents' receipt of an occupational/private pension, their housing tenure and their health.

This study contributes to existing literature examining the association between employment and wellbeing in two ways. First, we took entire working histories into consideration and produced eight different occupational lifecourse trajectories in order to better capture the heterogeneity in terms of the length of a specific state and when this period occurred within the working life, which may have different consequences for later life wellbeing. Second, importantly, path-analysis shed light on several pathways which contribute to our understanding of why subjective wellbeing varies between older adults with different work histories. Three critical mediators were highlighted, the receipt of an occupational/private pension, housing tenure and health. Employment trajectories affect an individual's occupational/private pension receipt, housing tenure and/or health first, which in turn affect older adults' life satisfaction. To the best of our knowledge, this is the first longitudinal study to explore the relationship between employment trajectories and later life wellbeing operating through other variables. The findings provide a more comprehensive and explicit interpretation compared to previous studies regarding work histories and later life wellbeing (Thomas et al., 2005; Wahrendorf, 2015; Wahrendorf et al., 2013).

Compared to older people with a 'full employment' trajectory, those with employment histories characterised as 'early retirement', 'family caring', 'inactive/atypical', 'full-time returning' and 'self-employed' have a lower later life satisfaction, while those in the 'part-time returning' category show a higher later life satisfaction. These differences are explained by the variations in older people's occupational/private pension receipt, housing tenure and health status. Specifically, there were two significant pathways that link lifecourse employment history and later life satisfaction via the three mediators. The first pathway was via the individuals' health. Respondents clustering in the early retirement or inactive/atypical categories experienced a decrease in their later life satisfaction mediated via health. Previous studies about the effect of work and retirement on older workers' perceptions of health have produced inconsistent findings, some suggesting that health improves after retirement (Westerlund et al.,

2009), others that it deteriorates (Buxton et al., 2005). It is possible that early retirement itself is a risk factor for poor health. It may also be that those with poor health for other reasons tend to retire early (Mein et al., 2000). The absence of health status before retirement as a variable in the dataset does not allow us to explore the dynamic relationships and directions underlying the association between the early retiree group and the higher prevalence of reported poor health. However, existing research has shown that individuals with unstable careers, including those clustering in the inactive/atypical group, are likely to undertake health-risk behaviours such as smoking, drinking alcohol and fewer physical activities, which could lead to their poor health status (Head et al., 2004). The finding of the long-term consequences of job loss on individuals' health and wellbeing at older ages is consistent with previous studies (Platts et al., 2013; Schröder, 2013).

Another pathway was via the respondents' pension security, followed by their housing tenure and then health. The respondents with employment histories dominated by family caring, or characterised as inactive/atypical, or as mostly self-employed, showed a relatively lower later life satisfaction score compared with their full-time employed counterparts. The differences are partly due to a lower probability of receiving an occupational/private pension, combined with disadvantaged housing tenure and/or poor health status. The possible explanation is that older people with insecure employment trajectories may face a pension gap owing to career breaks or lower pay (Banks et al., 2002). When individuals in such groups were in their working age, pension savings may have been less prioritised as they faced more pressing financial concerns with an unstable income from work and the cost of renting a home. The existing pension auto-enrolment scheme requires employers to enrol staff aged 22 and over and earning above £10,000 into a pension (Field et al., 2016). Some individuals, especially those who have worked part-time or with work histories including periods out of the labour market, may not have been earning enough to pay into pension savings (Bardasi and Jenkins, 2010) or to qualify for automatic pension contributions. For self-employed individuals, saving into a pension would have been more difficult than for employees, because of the lack of employer contributions and irregular income patterns. Individuals without a sufficient pension income were less likely to have a healthy living in terms of nutrition, physical activity and psychosocial indicators (Morris et al., 2000). Those without an occupational/private pension still needing to pay off rent debt later in life were even more vulnerable, and more dependent on the state and their family for achieving wellbeing and/or life satisfaction (Doling and Ronald, 2010).

Respondents with an employment history characterised as part-time returning have a higher later life satisfaction score compared with those with a full-time employed record. These differences are partly explained by the higher probability of owning a house outright and better health status, which increases the life satisfaction score; while this group of older people also have a lower probability of receiving an occupational/private pension, which is linked with poor housing tenure and poor health. The summation of different pathways results in an increase in one's later life satisfaction score. It is noted that occupational/private pension receipt or housing tenure alone do not have a significant mediation effect, unless when they combine, or operate through individuals' health status, indicating the lifecourse accumulation of disadvantages (Dannefer, 2003; O'Rand, 2002).

The strengths of this study include its longitudinal study design, large sample size, comprehensive measures of lifecourse employment history and pathway modelling. We present a more holistic view of lifecourse characteristics such as early life employment trajectories,

pension security, housing tenure and health combined to shape individuals' later life subjective wellbeing. There are also several limitations. First, it is possible that the mediation effects between individuals' employment history and their later life wellbeing are different by sex (Wahrendorf, 2015). However, separate analyses of men and women were not feasible for this study due to the small number of the respective subsamples. Future research may take gender differences into account when the sample size for subgroups is large enough. Second, other wealth in later life such as family income from a spouse may also be important (Banks et al., 2002) when studying the relationship between employment history and later life wellbeing. This is because on many occasions, an individual's job participation, saving into a pension scheme and housing choice is a joint family decision (Wood et al., 2012). Future studies may include such measures. Lastly, the subjective wellbeing outcome was measured by a self-report questionnaire. Critics have suggested that responses to questions on life satisfaction are likely to measure other phenomena (Dolan et al., 2008). Rather than indicating how much the respondent enjoys life, answers could simply reflect normative notions and desires. However, research shows that the life satisfaction scales reflect the quality of respondents' lives in a valid manner (Diener et al., 2013).

The findings from this study have significant policy implications, especially under the circumstances of changing patterns in labour market participation towards greater insecurity and a decline in the level of occupational/private pension participation (Olivera and Ponomarenko, 2017). The feature of insecurity and instability in individuals' lifecourse work experience especially among women, ethnic groups and younger generations is not a social phenomenon that is exclusive to the UK, but is also prevalent in the USA and Northern Europe (Gregg and Gardiner, 2015). Such changes are concurrent with important welfare reforms such as a shift away from Defined Benefit to Defined Contribution pensions, aimed at alleviating the pressure of an ageing population on public finances (Gregg and Gardiner, 2015). Given the evident interaction between employment, pensions, housing and welfare institutions and practices, the emerging trend might lead to insufficient protection of individuals' income, housing, health and wellbeing in retirement in the future. Policy interventions focusing on improving individuals' wellbeing should address the issues of labour market participation, encourage saving for an occupational/private pension, better access to housing and promoting health. Government could harness opportunities to increase both the availability of work and its quality regarding stability and pay. In addition, job opportunities would ideally be open to persons who are willing and capable to work, including both younger and older persons, above the state pension age. Labour market strategies are important for helping people spend more time in work during their lifecourse. The availability of in-work support, for example, childcare support, maternity/paternity leave arrangements, flexible working hours and disability-friendly workplaces, should be increased in order to boost participation and employment among women and disabled/long-term ill persons. In order to achieve adequate retirement income that is essential to maintain older people's living standards and wellbeing, government, employers, insurance companies and individuals should together take action to save enough into individuals' pensions or other retirement income. Older people beyond the state pension age can also improve their retirement incomes by continuing to work when they are able and wish to do so.

Insecure employment history leads to the postponement of the entry into home ownership and can shorten the duration of individuals' potential benefits from home ownership (Lersch and Dewilde, 2015). Individuals who are still paying off a mortgage or rent debt later in life may compromise their accumulation of economic security in old age. There is a need for

a fairer housing deal for all generations with an overall increase in the supply of affordable new homes and measures in order to ensure that those on low or modest incomes or with insecure jobs have access to them (Bakewell et al., 2019).

Health is a crucial mediator through which social inequalities emanating from lifecourse employment trajectories translate into older people's wellbeing directly, or operate through individuals' pension security and/or housing conditions. The results indicate that healthy ageing cannot be achieved through a single initiative, but requires a range of actions and approaches at the individual and societal levels which can work together to achieve this outcome (Beard et al., 2016). Socially vulnerable groups with insecure lifecourse employment histories as well as economically disadvantaged groups and individuals who do not own their home outright or with a mortgage have been shown to report higher rates of poor health and later life satisfaction. There is a strong need for policymakers to intervene and develop programmes in order to overcome health inequalities by providing adequate job opportunities, pension income and housing conditions for everyone. Moreover, healthy ageing strategies creating opportunities for older people to have regular physical activity, healthy diets, social relations and participation in meaningful activities would enhance later life wellbeing (World Health Organization, 2015).

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## REFERENCES

- Baird, B.M., Lucas, R.E., and Donnellan, M. (2010). Life satisfaction across the lifespan: findings from two nationally representative panel studies. *Social Indicators Research*, **99** (2), 183–203. doi:10.1007/s11205-010-9584-9
- Bakewell, J.D., Holmes, C., Bichard, M.G. et al. (2019). Select Committee on Intergenerational Fairness and Provision Tackling Intergenerational Unfairness. Report of Session 2017-19, published 25 April 2019, HL Paper 329. <https://publications.parliament.uk/pa/ld201719/ldselect/ldintfair/329/32902.htm>. Accessed 6 August 2019.
- Bambra, C. and Eikemo, T.A. (2009). Welfare state regimes, unemployment and health: a comparative study of the relationship between unemployment and self-reported health in 23 European countries. *Journal of Epidemiology and Community Health*, **63** (2), 92–8.
- Banks, J., Blundell, R., Disney, R., and Emmerson, C. (2002). Retirement, pensions and the adequacy of saving: a guide to the debate. The Institute for Fiscal Studies, Working Paper WP05/13.
- Banks, J., Emmerson, C., and Oldfield, Z. (2004). Preparing for retirement: the pension arrangements and retirement expectations of those approaching state pension age in England. The Institute for Fiscal Studies, Working Paper WP05/13.
- Bardasi, E. and Jenkins, S. (2010). The gender gap in private pensions. *Bulletin of Economic Research*, **62** (4), 343–63.
- Bartley, M. and Plewis, I. (2002). Accumulated labour market disadvantage and limiting long-term illness: data from the 1971–1991 Office for National Statistics' Longitudinal Study. *International Journal of Epidemiology*, **31** (2), 336–41.
- Beard, J.R., Araujo de Carvalho, I., Sadana, R. et al. (2016). The World report on ageing and health: a policy framework for healthy ageing. *Lancet*, **387** (10033), 2145–54.

- Braubach, M. and Savelsberg, J. (2009). *Social Inequalities and Their Influence on Housing Risk Factors and Health*. Geneva: World Health Organization. [http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0013/113260/E92729.pdf](http://www.euro.who.int/__data/assets/pdf_file/0013/113260/E92729.pdf). Accessed 12 October 2018.
- Brzinsky-Fay, C., Kohler, U., and Luniak, M. (2006). Sequence analysis with Stata. *Stata Journal*, **6** (4), 435–60.
- Buxton, J.W., Singleton, N., and Melzer, D. (2005). The mental health of early retirees – national interview survey in Britain. *Social Psychiatry and Psychiatric Epidemiology*, **40** (2), 99–105.
- Clark, A., Frijters, P., and Shields, M.A. (2007). Relative income, happiness and utility: an explanation for the Easterlin paradox and other puzzles. *Journal of Economic Literature*, **46** (1), 95–144.
- Dannefer, D. (2003). Cumulative advantage/disadvantage and the life course: cross-fertilizing age and social science theory. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, **58** (6), S327–S337. doi:10.1093/geronb/58.6.S327
- De Stavola, B.L., Daniel, R.M., Ploubidis, G.B., and Micali, N. (2014). Mediation analysis with intermediate confounding: Structural Equation Modeling viewed through the causal inference lens. *American Journal of Epidemiology*, **181** (1), 64–80.
- Department for Work and Pensions (2013a). Framework for the analysis of future pension incomes. [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/254321/framework-analysis-future-pensio-incomes.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/254321/framework-analysis-future-pensio-incomes.pdf). Accessed 12 October 2018.
- Department for Work and Pensions (2013b). State Pension age timetable. [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/310231/spa-timetable.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/310231/spa-timetable.pdf). Accessed 12 October 2018.
- Department of Health (2014). Working well. A compendium of factsheets: wellbeing across the lifecycle. [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/278138/Working\\_well.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/278138/Working_well.pdf). Accessed 12 October 2018.
- Diener, E. (2000). Subjective well-being: the science of happiness and a proposal for a national index. *American Psychologist*, **55** (1), 34–43. doi: 10.1037//0003-066X.55.1.3
- Diener, E., Inglehart, R., and Tay, L. (2013). Theory and validity of life satisfaction scales. *Social Indicators Research*, **112** (3), 497–527.
- Dietz, R.D. and Haurin, D.R. (2003). The social and private micro-level consequences of homeownership. *Journal of Urban Economics*, **54** (3), 401–50.
- Dolan, P., Peasgood, T., and White, M. (2008). Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective well-being. *Journal of Economic Psychology*, **29**, 94–122.
- Doling, J. and Ronald, R. (2010). Home ownership and asset-based welfare. *Journal of Housing and the Built Environment*. doi: 10.1007/s10901-009-9177-6
- Domenighetti, G., D'Avanzo, B., and Bisig, B. (2000). Health effects of job insecurity among employees in the Swiss general population. *International Journal of Health Services*, **30** (3), 477–90.
- Ferrer-i-Carbonell, A. and Frijters, P. (2004). How important is methodology for the estimates of the determinants of happiness. *The Economic Journal*, **114** (7), 641–59. <https://doi.org/10.1111/j.1468-0297.2004.00235.x>
- Field, F., Allen, H., Black, M. et al. (2016). *Automatic Enrolment. Eleventh Report of Session 2015–16*. <https://publications.parliament.uk/pa/cm201516/cmselect/cmworpen/579/579.pdf>. Accessed 12 July 2019.
- Foster, L. (2013). Gender and pensions: an analysis of factors affecting women's private pension scheme membership in the UK. *Journal of Aging and Social Policy*, **25** (3), 197–217.
- Fulle-Iglesias, H., Smith, J., and Antonucci, T.C. (2009). Theories of aging from a life-course and life-span perspective: an overview. *Annual Review of Gerontology and Geriatrics*, **29** (1), 3–25. doi: 10.1891/0198-8794.29.3
- Gana, K., Bailly, N., Saada, Y., Joulain, M., and Alaphilippe, D. (2013). Does life satisfaction change in old age: results from an 8-year longitudinal study. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, **68** (4), 540–52. doi:10.1093/geronb/gbs093
- Graham, C. and Pozuelo, J.R. (2017). Happiness, stress, and age: how the U curve varies across people and places. *Journal of Population Economy*, **30**, 225–64.
- Gregg, P. and Gardiner, L. (2015). *A Steady Job? The UK's Record on Labour Market Security and Stability since the Millennium*. Resolution Foundation report. <https://www.resolutionfoundation.org/app/uploads/2015/07/A-steady-job.pdf>. Accessed 12 September 2018.



- Halpin, B. (2012). Sequence analysis of life-course data: a comparison of distance measures. University of Limerick Department of Sociology Working Paper. <https://ulsites.ul.ie/sociology/sites/default/files//sociology-sequence-analysis-of-Life-course-data.pdf>. Accessed 12 July 2018.
- Halpin, B. (2014). *SADI: Sequence Analysis Tools for Stata*. Limerick: Department of Sociology, University of Limerick.
- Hawkes, N. (2012). Happiness is a U shaped curve, highest in the teens and 70s, shows survey. *BMJ*, **344**, e1534. doi: 10.1136/bmj.e1534
- Head, J., Stansfeld, S.A., and Siegrist, J. (2004). The psychosocial work environment and alcohol dependence: a prospective study. *Occupational and Environmental Medicine*, **61** (3), 219–24.
- Jessop, C. (2015). UK Household Longitudinal Study. <https://www.understandingsociety.ac.uk/documentation/innovation-panel/technical-reports>. Accessed 12 July 2018.
- Lersch, P.M. and Dewilde, C. (2015). Employment insecurity and first-time homeownership: evidence from twenty-two European countries. *Environment and Planning A*, **47**, 607–24. <https://doi.org/10.1068/a130358p>
- Lesnard, L. (2010). Setting cost in optimal matching to uncover contemporaneous socio-temporal patterns. *Sociological Methods & Research*, **38** (3), 389–419.
- Mein, G., Martikainen, P., Stansfeld, S.A., Brunner, E.J., Fuhrer, R., and Marmot, M.G. (2000). Predictors of early retirement in British civil servants. *Age and Ageing*, **29**, 529–36.
- Morris, J.N., Donkin, A.J.M., Wonderling, D., Wilkinson, P., and Dowler, E.A. (2000). A minimum income for healthy living. *Journal of Epidemiology and Community Health*, **54** (12), 885–9.
- Muthén, L.K. and Muthén, B.O. (2017). *Mplus User's Guide. Eighth Edition*. Los Angeles, CA: Muthén & Muthén.
- O'Rand, A.M. (2002). Cumulative advantage theory in life course research. *Annual Review of Gerontology and Geriatrics*, **22** (1), 14–30.
- Office for National Statistics (2018). *Measuring National Well-being: Quality of Life in the UK, 2018*. <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/articles/measuringnationalwellbeing/qualityoflifeinthek2018>. Accessed 16 June 2019.
- Olivera, J. and Ponomarenko, V. (2017). Pension insecurity and wellbeing in Europe. *Journal of Social Policy*, **46** (3), 517–42.
- Platts, L.G., Netuveli, G., Webb, E. et al. (2013). Physical occupational exposures during working life and quality of life after labour market exit: results from the GAZEL study. *Ageing & Mental Health*, **17** (6), 697–706.
- Rohe, W.M., Van Zandt, S., and McCarthy, G. (2000). Social benefits and costs of homeownership. Center for Urban and Regional Studies, University of North Carolina at Chapel Hill, Working Paper No. 00-01.
- Schröder, M. (2013). Jobless now, sick later? Investigating the long-term consequences of involuntary job loss on health. *Advances in Life Course Research*, **18** (1), 5–15.
- Sefton, T., Evandrou, M., Falkingham, J., and Vlachantoni, A. (2011). The relationship between women's work histories and incomes in later life in the UK, US and West Germany. *Journal of European Social Policy*, **21** (1), 20–36.
- Stiglitz, J.E., Sen, A., and Fitoussi, J. (2009). *Report by the Commission on the Measurement of Economic Performance and Social Progress*. <https://ec.europa.eu/eurostat/documents/118025/118123/Fitoussi+Commission+report>. Accessed 16 June 2019.
- Stone, J., Evandrou, M., Falkingham, J., and Vlachantoni, A. (2015). Women's economic activity trajectories over the life course: implications for the self-rated health of women aged 64+ in England. *Journal of Epidemiology and Community Health*, **69** (9), 873–9.
- Thomas, C., Benzeval, M., and Stansfeld, S.A. (2005). Employment transitions and mental health: an analysis from the British Household Panel Survey. *Journal of Epidemiology and Community Health*, **59** (3), 243–9.
- Vlachantoni, A., Feng, Z.X., Evandrou, M., and Falkingham, J. (2017). Ethnic elders and pension protection in the United Kingdom. *Ageing & Society*, **37** (5), 1025–49. doi:10.1017/S0144686X16000143
- Wahrendorf, M. (2015). Previous employment histories and quality of life in older ages: sequence analyses using SHARELIFE. *Ageing & Society*, **35** (9), 1928–59. <http://doi.org/10.1017/S0144686X14000713>
- Wahrendorf, M., Sembajwe, G., Zins, M., Berkman, L., Goldberg, M., and Siegrist, J. (2012). Long-term effects of psychosocial work stress in midlife on health functioning after labor market exit – results

- from the GAZEL study. *Journals of Gerontology: Psychological Sciences and Social Sciences*, **67B** (4), 471–80.
- Wahrendorf, M., Blane, D., Bartley, M., Dragano, N., and Siegrist, J. (2013). Working conditions in mid-life and mental health in older ages. *Advances in Life Course Research*, **18** (1), 16–25.
- Westerlund, H., Kivimaki, M., Singh-Manoux, A. et al. (2009). Self-rated health before and after retirement in France (GAZEL): a cohort study. *Lancet*, **374** (9705), 1889–96.
- Wood, A., Downer, K., Lees, B., and Toberman, A. (2012). Household financial decision making: qualitative research with couples. Department for Work and Pensions. Research Report No. 805.
- World Health Organization (2015). *World Report on Ageing and Health*. Geneva: World Health Organization.
- Zumbro, T. (2014). The relationship between homeownership and life satisfaction in Germany. *Housing Studies*, **29** (3), 319–38.

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