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Changes in labour market histories and their relationship with paid work around state pension age: evidence from three British longitudinal studies

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Abstract
Many countries have implemented policies to extend working lives in response to population ageing, yet there remains little understanding of what drives paid work in later life, nor how this is changing over time. This paper utilises the 1988/89 Survey of Retirement and Retirement Plans, the 1999 British Household Panel Survey and the 2008 English Longitudinal Study of Ageing, to investigate drivers of paid work in the ten years surrounding state pension age (SPA) for women and men in, comparing cohorts born in the 1920s, 1930s and 1940s. Using optimal matching analysis with logistic and multinomial regression models, the study assesses the relative importance of lifecourse histories, socio-economic circumstances and contemporaneous factors, in determining paid work in mid- and later life. Participation in paid work in the five years preceding and beyond SPA increased markedly for men and women across cohorts, with women's lifecourses and engagement with paid work changing considerably in these periods. However, for women, a lifetime history of paid work remained a crucially important predictor of paid work in later life, and this relationship has strengthened over time. Experiencing divorce has also become an important driver of paid work around SPA for the youngest cohort. Having children later, and still having a mortgage, also independently predict labour force participation for women and men. Across all cohorts and for women and men, working at these older ages was a function of higher income and better health.

These findings suggest that policies which enable people to maintain ties to paid work across the lifecourse may be more effective at encouraging later-life employment than those concerned only with postponing the retirement transition.

Introduction

In response to population ageing and associated rising pension, health and social care expenditures, many countries have implemented policies to extend working lives by raising the state pension age (SPA) among other changes (Department for Work and Pensions, 2017). However, while employment rates have increased at older ages, prior to 2010 when women's SPA was 60 and men's was 65, there were relatively few people in paid work over SPA in the United Kingdom (UK) (*e.g.* 33% of women at ages 60–64 and 24% of men at ages 65–69), and our understanding of the drivers of paid work in this period of later life remains limited (Department for Work and Pensions, 2021). Given extensions to SPA, this lack of understanding of what drives participation in paid work in the years up to and beyond SPA is becoming increasingly problematic for examining social and economic inequalities, as well as for ensuring the supply of appropriately skilled labour to the market. If we seek to encourage working longer as a response to population ageing, more information is needed to design appropriate policies and interventions.

We know from a body of well-established research that labour market histories are among the key drivers of employment in the years leading up to and beyond SPA (Pienta *et al.*, 1994; Finch, 2014; Madero-Cabib *et al.*, 2015; Stafford *et al.*, 2019). Two prominent explanations link earlier employment experiences to paid work at older ages, and they pull in different directions: the attachment and 'opportunity costs' hypotheses (Pienta *et al.*, 1994; Finch, 2014). The former suggests that strong labour market ties earlier in life facilitate ongoing attachment to the labour market at older ages. Conversely, the 'opportunity costs' explanation suggests that people may work in later life to compensate for time outside the labour market and associated economic penalties earlier in the lifecourse (Pienta *et al.*, 1994). However, in the face of great social and demographic change over the last half-century, it is not clear to what extent observed changes in labour market behaviour around SPA might be a function of changing employment histories, are driven by other demographic factors such as declines in childbearing and increases in divorce, or are more related to contemporaneous factors such as health and socio-economic status when approaching SPA. In short, to what extent do labour market histories really matter? For instance, are significant periods in or out of the labour market earlier in the lifecourse becoming more, or less, important for predicting work among more recent cohorts at these ages? And do changes in family behaviour such as increases in divorce, repartnering and second families play a role?

To this end, we examine trends in how the drivers of engagement with paid work in the years up to and beyond SPA have changed in the past, across decades of substantial social change. Our research considers three cohorts of British women

and men born around the 1920s (1919–1933), 1930s (1929–1943) and 1940s (1939–1953) for whom we have detailed lifetime biographies, and who we have observed in the ten years surrounding SPA (which for these cohorts was 60 for women and 65 for men) in the late 1980s, 1990s and 2000s (that is, at ages 55–64 for women and 60–69 for men). A key strength of our study lies in unique British cohort data that includes detailed lifetime labour market biographies available in three datasets: the Survey of Retirement and Retirement Plans, the British Household Panel Survey and the English Longitudinal Study of Ageing. These three data sources permit us to examine the influence of lifetime biographies together with contemporaneous factors on paid work in the years around SPA across cohorts – an analysis that is not possible using a single data source. In what follows, we review existing empirical research on cohort changes in labour market histories, examine what is already known about how employment biographies predict paid work in mid- and later life, and present the conceptual framing of our analyses, before turning to our results.

Background

Evidence from Britain, Germany, Switzerland and the United States of America (USA) (Brückner and Mayer, 2005; Widmer and Ritschard, 2009; Simonson *et al.*, 2011; Worts *et al.*, 2013; McMunn *et al.*, 2015; Scherger *et al.*, 2016) shows that women's working lives have become less complex across cohorts (and more similar to men's) as greater numbers maintain continuous full-time employment. Nevertheless, research in Britain and the USA indicates that long-term part-time employment and family breaks remain common among women, though the latter have shortened (Worts *et al.*, 2013; McMunn *et al.*, 2015; Scherger *et al.*, 2016). In contrast, studies in Britain, Switzerland and the USA suggest that male employment biographies are largely characterised by full-time employment across cohorts (Widmer and Ritschard, 2009; McMunn *et al.*, 2015; Scherger *et al.*, 2016). Furthermore, data from Germany show that later starts to employment are increasing for both women and men, most likely reflecting more years in education (Brückner and Mayer, 2005).

These changes are due in part to well-documented social and demographic changes that have occurred over the 20th century in the UK, as in other western industrialised countries (Disney and Hawkes, 2003; Gregg *et al.*, 2007; Murphy, 2011). Our cohorts would largely have entered the labour market between the post-war period and the early 1970s, a golden age of labour market performance in Britain where unemployment averaged just 2 per cent (Hatton and Boyer, 2005). During this period women's and mother's labour market participation rose steadily, the latter in response to the strengthening of maternal rights at work as detailed later in this section (Vlasblom and Schippers, 2006). Moreover, our study's youngest cohort would have also benefited from the 1944 Education Act which established free secondary education and raised the school leaving age to 15, while the oldest cohort could have already left school before the Act took effect. Across countries, including in Europe and the USA, rising educational levels significantly affected being in paid work, particularly among women (England *et al.*, 2012). For example, in the USA, around 40 per cent of the increase in employment at ages 48–

52 for US women born between 1925 and 1950 was due to rising education (Eckstein and Lifshitz, 2011). Women's participation in occupational pension schemes, which may affect attachment to paid work in the years leading up to SPA (Pienta *et al.*, 1994), also changed markedly for our cohorts under study. Rising participation reflected increased labour market participation more widely, but notable structural changes forced employers to equalise pension benefits to women and men from 1990 and offer pensions to part-time employees (Hanlon, 1999). These changes took many years to implement. In 1990, our oldest cohorts were already aged 57–71; and the youngest in our middle cohort were already approaching 50. It was only our youngest cohort that were likely to benefit substantially from these changes.

Changing social norms and values which have influenced policy changes around work have also affected lifetime employment. For instance, while too late for our older participants, our youngest cohort of women (that is, those born 1944–1953) would have benefited from the UK 1974 Employment Protection Act, which enabled more women to return to their previous job after a period of unpaid leave and offered wider entitlement to a guaranteed period of maternity pay before confinement (Gregg *et al.*, 2007). Further, our youngest cohorts of men experienced declines in early labour market exits most likely reflecting policy changes in Britain since the 1990s aimed at increasing the labour market participation of older adults following a significant period of decline which started in the late 1970s (Disney and Hawkes, 2003). Reasons for these early labour market exits include generous pension and disability benefit schemes which are likely to have disincentivised remaining in work, particularly among men (Disney and Hawkes, 2003).

However, evidence on how individual labour market biographies influence later-life work remains contradictory. Some theoretical guidance is offered by two opposing hypotheses applied to women's labour market participation in later life: the attachment and 'opportunity costs' hypotheses (Pienta *et al.*, 1994; Finch, 2014). As alluded to earlier, the first maintains that strong attachment to work earlier in the lifecourse creates momentum in the labour market that is likely to continue to later ages; this may be related to ongoing financial need but may also reflect the wider rewards of employment. This means that given general increases in women's labour force participation across cohorts, we might expect to see a similar increase in attachment in the years surrounding SPA. Conversely, the notion of 'opportunity costs' is also intuitively appealing, with women who took career breaks likely to extend their working life to recuperate lost earnings and pension entitlements, especially if they have experienced partnership disruption (Dingemans and Möhring, 2019). There have been attempts to test these hypotheses empirically, with mixed results. Some studies in Britain and the USA suggest that spending more years in employment during one's working life is associated with working beyond SPA for women but that this matters little for men (Pienta *et al.*, 1994; Cahill *et al.*, 2012; Finch, 2014; Stafford *et al.*, 2019); but other studies in Switzerland and the USA report that both women and men with interrupted labour market histories are more likely to work in their fifties and sixties, especially among younger cohorts (Raymo *et al.*, 2011; Clarke *et al.*, 2012; Madero-Cabib *et al.*, 2015). Kim and Rizzi (2020), using longitudinal European data, found that among women aged 50–64 (that is, those born between 1940 and 1957), it was those whose histories were

characterised by interruptions and part-time work who intended to work for longer (Kim and Rizzi, 2020). Thus, a lack of clarity remains with respect to the relationship between women and men's labour market histories and paid work in the years up to and beyond SPA, especially once other contemporaneous factors are considered. Yet, this is key to understanding the evolution of employment in later life in the context of ongoing social change.

These social transformations have unfolded alongside demographic changes in family behaviour, most notably declines in childbearing and increases in divorce, that have also affected employment, particularly among women (Murphy, 2011). Women in England and Wales born in the mid-1930s had, on average, larger families (around 2.5 children) in comparison to those born earlier or later (with around 2.1 children), as part of the mid-1960s baby boom (Murphy, 2011). Studies have shown that having fewer children was a significant contributor to the rise in female employment (although less important than the rise in education); *e.g.* in the USA, the contribution was between 2 and 8 per cent for cohorts born between 1925 and 1975 (Eckstein and Lifshitz, 2011). Work in Britain and in Continental Europe shows that more children (and later childbearing) are also associated with delayed retirement, both actual and intended (Damman *et al.*, 2011; Hank, 2004; Hank and Korbmacher, 2013; Stafford *et al.*, 2019); however, the association was found to be weaker and less consistent for men (Hank and Korbmacher, 2013; Finch, 2014).

In England, studies have also examined changes across older cohorts in the relationship between family and employment trajectories for both sexes, showing a steady rise in patterns connected to divorce. For example, a pattern of long-term divorcees with children has become significantly more prevalent among the biographies of the youngest cohort of older women, *i.e.* those born in 1948–1957 compared to 1916–1927 (Scherger *et al.*, 2016). This is not surprising given significant increases in divorce. For example, in England and Wales, 13 per cent of marriages occurring in 1951 ended in divorce before the 20th wedding anniversary, compared to 24 per cent of marriages celebrated in 1971 (Haskey, 1988). The impact of divorce on labour force participation is ambiguous. In the USA, Fernández and Wong (2014) found that a higher probability of divorce among women from their mid-twenties to mid-fifties accounted for around 46 per cent of the increase in US married women's lifetime labour force participation (comparing the 1955 to the 1935 cohort), possibly because of the increased need for savings among women in preparation for divorce (Fernández and Wong, 2014). However, in Europe studies have shown only modest increases in employment following a marital separation, and in the UK employment probabilities decrease (Van Damme *et al.*, 2008). At older ages, studies in Britain, Europe and the USA have largely found that women who remain unmarried following a divorce are more likely to continue working after SPA, suggesting a need to keep working due to lower accumulated wealth; however, there was little effect for men (Pienta *et al.*, 1994; Finch, 2014).

In summary, while we know that rising educational levels and falling fertility have contributed to increases in employment for both sexes, with evidence for the impact of divorce being more ambiguous, we know little about how these factors are associated with paid employment at older ages. However, we do know that contemporaneous characteristics are important. In particular, European studies find that poor health and disability increase the likelihood of early retirement

(Drobnič, 2002; Hank, 2004; Damman *et al.*, 2011, 2015; Wahrendorf *et al.*, 2017), and conversely, research from England and the USA finds they decrease the chance of being in paid work at older ages (Pienta *et al.*, 1994; Pienta, 1999; Di Gessa *et al.*, 2016). Other relevant current factors include education, housing tenure, household income and wealth, and occupational status. Evidence on education suggests that those with higher educational levels tend to stay in the labour force longer than their less-qualified counterparts, although a few studies in Continental Europe and the USA offer contradictory evidence for men (Pienta *et al.*, 1994; Pienta, 1999; Drobnič, 2002; Hank, 2004; Hank and Korbmacher, 2013; Damman *et al.*, 2015). With respect to housing tenure, some studies show earlier retirement among home-owners, particularly among males in Germany (Drobnič, 2002), while others find no significant effect for either sex in Europe (Hank and Korbmacher, 2013). Some research suggests positive associations between household income or wealth and earlier labour force withdrawal, particularly among men in Germany (Drobnič, 2002; Hank, 2004), whereas other work shows that, like wealthier men, wealthier women also stop work at earlier ages in the Netherlands and the USA (Pienta *et al.*, 1994; Pienta, 1999; Damman *et al.*, 2011). Occupational class has also been found to influence working beyond SPA with, for example, those in the professional groups significantly more likely to extend work in comparison to skilled manual workers in Finland (Virtanen *et al.*, 2017). By contrast, both pension eligibility and the joint retirement effect are well substantiated: both women and men with a spouse still in paid work are more likely to continue working, at least in the USA (Pienta *et al.*, 1994; Pienta, 1999).

Considering all these factors, our aim is therefore to investigate how employment and family biographies as well as contemporaneous factors shape who works in the years surrounding SPA, whether this relationship has changed across cohorts for British women and men, and whether we can discern any important trends. Given the theoretical and empirical background described above, our hypotheses are as follows:

- Hypothesis 1: In line with attachment theory, we expect a positive association between greater periods in the labour market and paid work in the years surrounding SPA across cohorts, particularly for the youngest cohorts under study.
- Hypothesis 2: As predicted by the 'opportunity costs' theory, we also expect that those with more interrupted work histories are more likely to be in paid work around SPA, particularly among those with fewer resources (*e.g.* divorced women who remain unmarried).

Methods

Data

This study drew one ten-year birth cohort from each of three nationally representative datasets: the 1988/89 Survey of Retirement and Retirement Plans (RS), the 1999 (Wave 9) British Household Panel Survey (BHPS) and the 2008/09 (Wave 4) English Longitudinal Study of Ageing (ELSA) (Office of Population

Censuses and Surveys, Social Survey Division, 1992; University of Essex, Institute for Social and Economic Research and National Centre for Social Research, 2010; Marmot *et al.*, 2016). Each survey includes extensive information on current labour market activity, physical and psychological health, and economic and social circumstances, as well as detailed retrospective histories which we used to create labour market typologies and summary measures of family histories. Further details on the sampling frame and methodology, on weighting strategies and the questionnaires have been reported elsewhere but a brief description of each dataset is given below (Disney *et al.*, 1997; Steptoe *et al.*, 2012; Taylor *et al.*, 2018).

The RS is a nationally representative sample of 3,543 people aged 55–69 in Britain based on a stratified clustered design, with an individual response rate of 75 per cent (Disney *et al.*, 1997). The BHPS is an annual longitudinal survey of a nationally representative sample (stratified cluster design) of 10,264 adults in Wave 1, with an individual response rate of 69 per cent (Taylor *et al.*, 2018). Of the original sample members interviewed in the first wave, about 65 per cent completed a full interview at Wave 9, and this wave was augmented by additional samples from Scotland and Wales bringing the total sample size to 15,625 (Taylor *et al.*, 2018). ELSA is a longitudinal study of the population aged 50 and over living in private households in England. The approximately 12,000 participants at baseline were recruited from three years (1998, 1999 and 2000) of the Health Survey for England (HSE) and are interviewed every two years. The individual response rate was 71 per cent to the HSE and 61 per cent for Wave 1 of ELSA. In Wave 4, analysed here, there were around 11,000 individual interviews, including about 67 per cent of original sample members as well as new entrants (Hayley *et al.*, 2012). We used cross-sectional weights in the descriptive analyses to correct for differential response rates within the group of selected individuals and households as well as for the non-equal probability of selection of respondents due to the additional sub-samples in the BHPS.

Analytic sample

Our initial analytic sample comprised female respondents aged 55–64 and male respondents aged 60–69 observed in 1988/89 (RS), 1999 (BHPS) and 2008/09 (ELSA). This sample was then restricted to respondents for whom retrospective histories had been collected and who had contributed at least one-third of their annual labour information between the ages of 16 and 54 (for women) and 16 and 59 (for men). Given differences in study designs and measures collected across surveys we analysed each survey separately and did not pool the data.

For RS, both current characteristics and histories were collected in 1988/89. Of our initial sample of 2,304 respondents, 1,118 women and 987 men had complete history data. For BHPS, we sampled 1,797 respondents at Wave 9 (1999); of these, 636 women and 523 men had also contributed retrospective histories at Waves 2 (1992) or 10 (2000). Finally, our ELSA sample comprised 1,290 female and 1,028 male respondents at Wave 4 (2008/09) who had life history data from the previous wave (about 60% of our initial sample).

Indicators for paid work, lifecourse and contemporaneous circumstances

Our outcome measured being in paid work in any of the years in the period studied for late-life work (*i.e.* 55–64 for women and 60–69 for men). A categorical variable was created capturing: whether respondents were in paid work in the previous month (ELSA, BHPS) or week (RS) and, for working females, whether full- or part-time (20 hours per week or less). The threshold for part-time work was set as 20 hours per week as this is widely used in international comparative studies (O'Reilly and Fagan, 1998). In the UK there are tax and benefit reasons for people working at least 16 hours per week; however, we used 20 hours as the cut-off to draw in those working in more intermediate (*e.g.* clerical) and professional jobs, important categories for women. The reference category was not being in paid work.

Lifecourse variables

We used optimal matching analysis to summarise and describe labour market histories (Abbott and Tsay, 2000). A yearly category was derived from age 16 to 54 (women) or 59 (men) from the retrospective histories and the data collection waves. Gaps in labour market histories were filled using multiple imputation, with 20 imputed datasets created (details given below). We adopted an 'ideal-type' approach (Wiggins *et al.*, 2007) whereby observed sequences of work were systematically compared with reference trajectories representing a range of 'typical' and 'alternative' biographies using Lesnard's dynamic hamming algorithm (Lesnard, 2010). These ideal-type trajectories were generated for comparison purposes and later discarded. They were initially defined separately by all authors, and following comparison that showed considerable overlap, the final set of trajectories was agreed upon by all authors. Theoretical considerations, as well as national statistics regarding average ages of key transitions, such as joining the labour market or age at first child, guided the definition of the trajectories. The dynamic hamming algorithm preserves the timing of role occupancies and transitions, and by relying exclusively on substitutions in the comparison of model and observed sequences, reduces the arbitrary assignment of costs to insertions and deletions. A distance matrix was produced, and respondents were assigned to the model pattern most closely resembling their observed sequence (described fully in Corna *et al.*, 2016). Robustness checks performed using traditional optimal matching yielded very similar classifications of individuals' employment histories (Abbott and Tsay, 2000). Since the dynamic hamming algorithm requires complete data, we excluded those with no employment history data, or where more than two-thirds of the data were missing. For the remaining sample, we imputed annual labour market status using a twofold fully conditional multiple imputation specification (Van Buuren *et al.*, 1999) implemented in Stata using the -ice- program. Results from our 20 imputed datasets were combined using Rubin's rules. Seven patterns were created for women: employed full-time throughout; employed part-time throughout; not employed throughout; family care throughout; very early exit at about age 49; shorter family break between ages 26 and 32 followed by part-time employment; and longer family break between ages 23 and 34 followed by full-time employment. While both the *not employed throughout* and the *family care* groups

were likely to be providing family care from young to middle adulthood, those in the former group were predominantly providing family care at or just before age 20 whereas the *family carers* were likely to be working full-time before transitioning to family care in their early to mid-twenties (Corna *et al.*, 2016). Four categories were created for men: employed full-time throughout; not employed throughout; very early exit at about age 49; and a later start into paid employment at age 23 followed by full-time work up to SPA. Given small numbers in some categories we reduced the seven categories to five for women, grouping those who were not employed throughout with family care throughout, and those with a shorter family break followed by part-time work with part-time workers. It is important to note when examining the results that individuals are matched to their closest model sequence, but their actual sequence will not match exactly.

From retrospective marital histories and updated with information on marital status collected in the subsequent annual waves, we created two indicators, recording the experience of divorce or widowhood. Using the parental histories, we distinguished respondents based on the number of dependent children (defined as those under 16 years of age) living in the household at each age between the ages of 16 and 54. Our focus was on dependent children because of their effect on the labour market participation of women and men. The six parental history categories originally created were collapsed into three: no children under 16 in the household at ages 16–54; having child(ren) early (*i.e.* those who had a first child in the household approximately between 22 and 24); and having child(ren) late (*i.e.* those had a first child in the household after age 29). More details about the parental histories can be found in Corna *et al.* (2016).

Measures reflecting employment conditions were limited. We controlled for usual occupation-based socio-economic status (where possible), that is the modal occupational class that someone occupied throughout their working lives. This indicator was derived from the detailed employment histories in RS (based on the Registrar General's classification) and BHPS (using the three-level National Statistics Socio-Economic Classification (NS-SEC)). NS-SEC classifications are based on location in a system of authority and the economic security and opportunities for advancement of a given position and can be applied to the whole adult population, including those not currently working (distinguishing between higher managerial, administrative and professional occupations; intermediate occupations; and routine and manual occupations). Following earlier research, we also included number of jobs held as a measure of work experience (Hank and Korbmacher, 2013), as well as having an occupational pension.

Covariates

As noted above, numerous studies have demonstrated the complexity of decisions about later-life work; besides lifetime employment histories, these also involve contemporaneous factors such as one's age, partner's work status, socio-economic position and health (Pienta *et al.*, 1994; Finch, 2014; Wahrendorf *et al.*, 2017; Dingemans and Möhring, 2019). Age was continuous with a spline function to capture its nonlinear relationship with later-life working (Pienta, 1999). Partner's work status was represented in three categories: unpartnered, spouse/partner not in paid

work, or spouse/partner in paid work, as research shows that those with a partner still in employment are more likely to continue working (Pienta *et al.*, 1994; Pienta 1999; Fisher *et al.*, 2016). Care-givers were defined as those who provided any care or help regularly (BHPS, RS) or in the previous month (ELSA).

We included measures of education, housing tenure and household (or partnership) income to capture contemporaneous socio-economic status. Educational level was recoded into low (below secondary), middle and high (university or above) following the International Standard Classification of Education (Schneider, 2013). Housing tenure distinguished outright owners, owners with a mortgage and non-owners. Income measures used were usual weekly partnership ('benefit unit') income (RS), household income for the previous month (BHPS) or weekly partnership income (ELSA); income was divided into quintiles.

We measured health using three indicators that are comparable across the surveys: self-rated health; functional limitations; and limiting long-term illness. Self-rated health (SRH) was measured in ELSA/BHPS by a validated question ('Would you say your [general] health is…') with five possible responses: excellent, very good, good, fair or poor. RS asked respondents if their health over the last 12 months was good, fairly good or not good. Retaining the latter classification, BHPS and ELSA respondents were trichotomised into 'fair or poor', 'good' or 'excellent or very good'. Respondents were classified as reporting functional limitations if they had any difficulty walking (a quarter mile in RS/ELSA, a half-mile in BHPS); or climbing one flight of stairs (in BHPS/ELSA) or climbing steps or stairs (in RS); or dressing (putting on shoes in ELSA, undressing in RS, bathing in BHPS). Finally, ELSA respondents were asked whether any long-standing illness, disability or infirmity had limited their daily activities over a period; RS and BHPS respondents were asked a series of questions on disabilities or health problems, and then whether their health limited their actions. We created a single variable distinguishing those without any difficulty, those with a non-limiting difficulty, and those with limiting long-standing illness or disability. In addition, for ELSA respondents, life histories in Wave 3 asked about health in childhood (dichotomised as good, very good or excellent health *versus* fair or poor) and adulthood (two or more periods of ill health or disability lasting more than a year *versus* one or none).

Statistical analyses

Using Stata 15, we assessed the relationship between employment history and paid work, separately for men and women, using the controls listed above. Analyses were repeated adding usual occupational class (RS and BHPS only), and again adding lifecourse health (ELSA only). We used multinomial logistic regression for women to test the probability of being in full- or part-time work relative to not being in paid work at ages 55–64, applying information from the life histories as well as contemporaneous factors. For men, we used logistic regression to examine associations between life history and current factors and being in paid work relative to not being in employment for those aged 60–69. To adjust for complex sample designs and initial non-response, cross-sectional weights provided with the datasets were used in our analyses.

Results

Descriptives

Table 1 presents the weighted values of our outcome and explanatory variables for the three cohorts of women aged 55–64 and of men aged 60–69. Comparing cohorts shows a marked increase in the likelihood of working in the years around and beyond SPA. While the distribution is similar for both sexes in the two earlier cohorts, there is a marked change in the later cohort. For the oldest cohort of women, around two-thirds were not working and around 21 per cent were working full-time, but in the youngest cohort less than half were not in paid work while 36 per cent were working full-time (Table 1), while for men, the percentage in full-time employment increased from around 32 per cent to 44 per cent.

These tables also show changes in the labour market history 'types' of women and men. A key change for women is a decline in the percentage mostly caring for family throughout, from 27 to 18 per cent (Table 1). There were small percentage increases in continuous full-time working and in working mostly part-time, with the latter (a combination of part-time work throughout or family care followed by part-time work) remaining the most common pattern. For men, the most notable change in type was the decline in continuous full-time work, from 91 to 69 per cent (Table 2). In addition, very early labour force exit (that is, at about age 49) increased among those observed at ages 60–69, from 4 per cent for the oldest cohort to 14 per cent for the youngest (and peaked at 18 per cent for the middle cohort), while later starts to employment grew, from 4 to 12 per cent (Table 2).

As previously reported (Glaser *et al.*, 2017) there were also notable shifts in socio-demographic characteristics across cohorts: these include changes in family histories, education levels and tenure status. With respect to partnership histories, there were increases across cohorts in those who ever experienced a divorce from 13 to 36 per cent for the youngest cohort of women and from 13 to 30 per cent for men. However, family sizes remained largely stable for women (but increased for men) (Tables 1 and 2). Levels of education increased; *e.g.* among women the percentage reporting middle levels of education rose from 26 per cent for the oldest cohort to 62 per cent for the youngest, and the percentage who owned their home outright increased from 49 to 61 per cent, respectively (Table 1). Having an occupational pension also changed significantly across cohorts with 87 per cent of the youngest cohort of women reporting an occupational pension in comparison to 40 per cent of the oldest (Table 1). There were few differences in health status across for cohorts for women or men.

Models

Multinomial models for women demonstrated that across all cohorts, those with a continuous, full-time labour market history were much more likely to be in full-time work relative to not being in paid work at ages 55–64, even when other demographic and socio-economic factors were considered (Table 3). For example, women in the youngest cohort who had been mostly family carers were substantially less likely to be in full-time work at ages 55–64 (Relative Risk Ratio (RRR) = 0.09, 95% confidence interval (CI) = 0.05–0.16) in comparison to those who had been employed full-time throughout their working lives, other things being

Table 1. Paid work around state pension age (SPA), labour market histories, and demographic and socio-economic characteristics by cohort, women aged 55–64

Characteristics	Oldest cohort (born 1924–1933)	Middle cohort (born 1934–1943)	Youngest cohort (born 1944–1953)
	Percentages or mean values		
Employment status around SPA:			
Not in paid work around SPA	63.0	60.1	47.3
In paid work around SPA ⩽20 hours	16.0	15.6	17.1
In paid work around SPA >20 hours	21.0	24.3	35.6
Labour market histories:			
FT throughout	19.6	18.7	23.9
Family care throughout	26.7	21.1	17.7
Very early exit	6.7	9.0	6.5
→ to PT	31.7	35.2	36.8
→ to FT	15.3	16.0	15.1
Mean number of jobs	5.7	4.1	4.0
Occupational pension	39.9	61.2	86.7
Family histories:			
Ever divorced	13.1	20.5	36.1
Ever widowed	18.9	9.2	7.3
Mean number of children	2.2	2.1	2.1
No children	16.4	13.5	13.2
Child(ren) early	63.9	73.9	66.8
First child late	19.6	12.6	20.0
Contemporaneous characteristics:			
Mean age	59.8	59.7	59.2
Live alone	17.5	17.7	15.6
Partner in work	30.4	31.7	41.1
Partner not in paid work	32.0	37.2	24.9
Information on partner missing	20.1	13.4	18.4
Provided care	23.0	28.0	19.6
Education:			
High	10.1	11.3	15.8
Middle	25.6	28.6	61.9
Low	64.3	60.1	22.2
Housing tenure:			
Own outright	48.5	56.1	60.8

(*Continued*)

Table 1. (*Continued.*)

Characteristics	Oldest cohort (born 1924–1933)	Middle cohort (born 1934–1943)	Youngest cohort (born 1944–1953)
Mortgage	18.6	26.4	22.6
Rent	32.9	17.4	16.6
In highest income quintile	19.9	23.3	19.5
Self-rated health:			
Very good/excellent	48.8	41.2	45.1
Good	29.3	32.7	33.2
Fair/poor	21.9	26.1	21.7
With functional limitations	18.0	17.3	14.8
Other adulthood and childhood characteristics			
Long-term illness limiting daily activities:			
No difficulty	61.7	40.5	50.1
Difficulty, not limiting	20.4	33.1	20.6
Limiting	17.9	26.4	29.3
Usual occupation:			
Managerial	17.9	22.6	N/A
Intermediate	31.6	30.0	
Routine/manual	50.5	47.4	
Fair/poor health in childhood	N/A	N/A	10.6
Two or more periods of ill health in adulthood	N/A	N/A	12.4
N respondents	1,118	636	1,290

Notes: PT: part-time. FT: full-time. → to PT: PT workers and shorter family break followed by PT. → to FT: longer family break followed by FT. N/A: not available.
Source: The 1988/89 Survey of Retirement and Retirement Plans, the 1999 British Household Panel Survey and the 2008/09 English Longitudinal Study of Ageing. Own calculations.

equal. Being in part-time work in this age group was positively associated with a history of part-time employment for the older two cohorts, but this relationship became non-significant for the most recent cohort. Regarding the role of marital dissolution, only the youngest cohort of women who had experienced divorce were more likely to be in full-time work at ages 55–64 (RRR = 1.91, 95% CI = 1.32–2.77). In both the youngest and oldest cohorts, but not the middle, women in households where the first dependent child was born later (after about age 30) were more likely than the childless to be in full-time work at ages 55–64. For example, for the most recent cohort of women, those who had children later were 2.60 times more likely to be working full-time in years surrounding SPA. Having a partner in paid work was consistently positively associated with being in paid work for women. More advantaged women had the highest likelihood of remaining in work; these advantages included being in the highest income quintile

Table 2. Paid work around state pension age (SPA), labour market histories, and demographic and socio-economic characteristics by cohort, men aged 60–69

Characteristics	Oldest cohort (born 1919–1928)	Middle cohort (born 1929–1938)	Youngest cohort (born 1939–1948)
	Percentages or mean values		
Whether in work around SPA:			
Not in paid work around SPA	68.4	70.0	56.2
In paid work at around SPA	31.6	30.0	43.8
Labour market histories:			
FT throughout	91.4	74.1	69.3
Not employed	0.3	1.0	4.6
FT, early exit	3.8	18.3	14.0
Start at 23, FT up 59	4.4	6.6	12.1
Mean number of jobs	7.4	4.3	4.1
Occupational pension	75.7	91.9	92.2
Family histories:			
Ever divorced	13.1	16.1	29.6
Ever widowed	9.7	6.3	7.5
Mean number of children	1.9	2.0	2.2
No children	20.2	18.8	18.4
Child(ren) early	44.3	54.6	54.3
First child late	35.5	26.6	27.3
Contemporaneous characteristics:			
Mean age	64.4	64.3	63.9
Live alone	16.6	14.9	14.5
Partner in work	17.4	24.6	30.7
Partner not in paid work	49.8	54.2	42.0
Information on partner missing	16.2	6.3	12.8
Provided care	14.6	21.8	9.1
Education:			
High	10.1	14.2	22.7
Middle	34.1	28.5	56.2
Low	55.8	57.3	21.1
Housing tenure:			
Own outright	50.6	60.8	67.5
Mortgage	14.5	20.3	17.5
Rent	34.9	18.9	15.0

(*Continued*)

Table 2. (*Continued.*)

Characteristics	Oldest cohort (born 1919–1928)	Middle cohort (born 1929–1938)	Youngest cohort (born 1939–1948)
In highest income	19.7	22.2	18.9
Self-rated health:			
Very good/excellent	48.6	36.7	42.1
Good	28.0	33.1	31.8
Fair/poor	23.4	30.2	26.1
With functional limitations	18.9	18.1	19.0
Other adulthood and childhood characteristics			
Long-term illness limiting daily activities:			
No difficulty	53.3	45.8	44.7
Difficulty, not limiting	25.3	32.5	23.2
Limiting	21.4	21.7	32.1
Usual occupation:			
Managerial	33.1	26.2	N/A
Intermediate	14.5	21.9	
Routine/manual	52.4	51.9	
Fair/poor health in childhood	N/A	N/A	12.2
Two or more periods of ill health in adulthood	N/A	N/A	10.4
N respondents	987	523	1,028

Notes: PT: part-time. FT: full-time. N/A: not available.
Source: The 1988/89 Survey of Retirement and Retirement Plans, the 1999 British Household Panel Survey and the 2008/09 English Longitudinal Study of Ageing. Own calculations.

and being in good health. Finally, having a mortgage (but not outright ownership) was positively associated with being in paid work – across cohorts, women were two to three times more likely to be in full-time work than not working if they had a mortgage – as was being in the higher income quintiles (for full details, *see* Table 3).

The results for men are shown in Table S1 in the online supplementary material and are broadly similar to those for women. However, given that most men across all cohorts had been in full-time work throughout, we were not able to include labour market histories in the models. Across all three cohorts, men observed at ages 60–69 were more likely to be in paid work if their partner was working or if they still had a mortgage. In addition, as for women, men with more advantaged characteristics such as higher incomes and better health were more likely to be in paid work at ages 60–69.

Additional analyses using RS and BHPS only (the two earlier cohorts) also controlled for usual occupational class, while health in adulthood and childhood were available in ELSA only (Table 4 for women; Table S2 in the online supplementary material for men). In contrast to previous research, usual occupational class showed no significant association with full-time later-life working for either sex once all

Table 3. Multilevel logistic regression of paid work (full-time (FT) or part-time (PT)) on labour market and family histories, and demographic and socio-demographic characteristics, women aged 55–64

	Oldest cohort (born 1924–1933)				Middle cohort (born 1934–1943)				Youngest cohort (born 1944–1953)			
	Part-time *versus* not in paid work		Full-time *versus* not in paid work		Part-time *versus* not in paid work		Full-time *versus* not in paid work		Part-time *versus* not in paid work		Full-time *versus* not in paid work	
	RRR	95% CI	RRR	95% CI	RRR	95% CI	RRR	95% CI	RRR	95% CI	RRR	95% CI
Family care throughout[1]	0.90	0.38–2.11	0.09	**0.04–0.19**	0.54	0.17–1.64	0.15	**0.04–0.30**	0.28	**0.15–0.53**	0.09	**0.05–0.16**
Very early exit[1]	1.03	0.37–2.88	0.07	**0.02–0.26**	0.57	0.11–2.80	0.03	**0.01–0.23**	0.77	0.37–1.61	0.03	**0.01–0.15**
→ to PT[1]	5.16	**2.59–11.7**	0.54	**0.29–0.98**	4.15	**1.64–10.5**	0.71	0.34–1.49	1.37	0.84–2.24	0.45	**0.29–0.70**
→ to FT[1]	2.20	0.91–5.33	1.15	0.60–2.18	1.52	0.52–4.50	0.98	0.45–2.17	0.45	**0.23–0.86**	0.52	**0.31–0.87**
Age (years)	0.88	075–1.05	0.84	**0.71–0.98**	0.80	0.62–1.02	0.75	**0.60–0.93**	0.85	**0.72–1.00**	0.72	**0.62–0.83**
Age (spline)	0.91	0.69–1.19	0.60	**0.45–0.81**	1.13	0.77–1.65	1.06	0.75–1.51	0.99	0.77–1.26	0.92	0.73–1.15
Ever divorced	0.81	0.41–1.59	1.42	0.77–2.73	1.49	0.75–2.98	0.81	0.43–1.55	1.28	0.85–1.91	1.91	**1.32–2.77**
Ever widowed	1.24	0.64–2.38	1.26	0.64–2.49	1.36	0.57–3.23	0.93	0.41–2.09	1.27	0.64–2.49	0.91	0.46–1.78
Child(ren) early[2]	1.31	0.63–2.70	1.32	0.68–2.57	1.81	0.53–6.17	1.06	0.43–2.60	1.37	0.83–2.60	2.22	**1.28–3.84**
Child(ren) late[2]	2.23	**1.08–4.89**	2.84	**1.33–6.06**	2.24	0.55–9.06	1.38	0.46–4.22	1.52	0.80–2.86	2.60	**1.43–4.73**
Number of jobs	1.15	**1.08–1.21**	1.06	**1.00–1.13**	1.21	**1.08–1.34**	1.29	**1.16–1.44**	0.98	0.92–1.06	0.98	0.92–1.05
No occupational pension	1.02	0.64–1.60	0.40	**0.25–0.63**	1.06	0.52–2.35	0.91	0.52–1.62	1.05	0.56–1.97	0.59	0.32–1.07
Live alone[3]	0.60	0.28–1.28	0.62	0.29–1.30	1.32	0.52–3.34	2.01	0.89–4.53	0.55	**0.30–1.00**	0.89	0.52–1.52
Partner not in work[3]	0.36	**0.22–0.59**	0.47	**0.28–0.81**	1.07	0.52–2.20	0.45	**0.22–0.89**	0.33	**0.21–0.52**	0.34	**0.22–0.52**
Information on partner missing[3]	0.62	0.33–1.15	0.54	**0.28–0.98**	0.75	0.27–2.06	1.36	0.60–3.10	0.42	**0.24–0.71**	0.66	0.40–1.06
Provided care	0.98	0.62–1.53	0.96	0.61–1.53	0.52	**0.27–0.98**	0.62	0.34–1.09	1.01	0.66–1.54	0.87	0.58–1.29

	RRR	95% CI	RRR	95% CI	RRR	95% CI	RRR	95% CI	RRR	95% CI	RRR	95% CI
Middle education[4]	0.73	0.36–1.49	1.27	0.64–2.53	2.44	0.89–6.07	1.31	0.57–2.94	0.68	0.43–1.08	0.91	0.59–1.39
Low education[4]	0.95	0.48–1.88	2.31	**1.17–4.54**	1.49	0.55–4.03	1.68	0.65–3.75	0.55	**0.30–0.99**	0.60	0.34–1.05
Not highest income	0.81	0.47–1.37	0.31	**0.18–0.52**	0.22	**0.10–0.44**	0.25	**0.13–0.49**	0.73	0.46–1.15	0.56	**0.37–0.86**
Mortgage[5]	1.98	**1.19–3.30**	2.30	**1.36–3.56**	2.67	**1.37–5.19**	2.52	**1.38–4.60**	1.63	**1.07–2.50**	2.37	**1.60–3.49**
Rent[5]	1.32	0.83–2.10	1.49	0.90–2.48	1.99	0.94–4.19	1.90	0.95–3.80	0.93	0.50–1.73	1.59	0.93–2.72
SRH good[6]	0.73	0.47–1.14	0.79	0.50–1.28	1.29	0.67–2.49	1.09	0.61–1.95	0.85	0.57–1.27	0.94	0.65–1.36
SRH fair/poor[6]	0.56	0.29–1.05	0.44	**0.23–0.87**	0.25	**0.14–0.52**	1.37	0.59–3.18	0.68	0.38–1.23	0.56	**0.32–0.97**
With functional limitations	0.32	**0.12–0.86**	0.49	0.20–1.19	0.22	**0.07–0.67**	0.45	0.16–1.18	0.39	**0.20–0.76**	0.37	**0.20–0.68**
Difficulty, not limiting[7]	1.11	0.67–1.81	0.80	0.46–1.36	0.62	0.33–1.16	0.65	0.37–1.17	1.02	0.67–1.58	1.16	0.77–1.74
Limiting[7]	0.32	**0.11–0.88**	0.48	0.20–1.20	0.17	**0.06–0.45**	0.22	**0.09–0.55**	0.60	**0.37–0.98**	0.56	**0.36–0.89**
N respondents	1,118				636				1,290			

Notes: Analyses are restricted to women aged 55–64 who had no missing values on the variables of interest available. Weighted data. → to PT: PT workers and shorter family break followed by PT. → to FT: longer family break followed by FT. Reference categories: 1. FT throughout. 2. No children. 3. Partner in paid work. 4. High education. 5. Own outright. 6. Very good self-rated health (SRH). 7. Without any long-lasting difficulty. Bold indicates RRR are significant at 5% (p<0.05).
Source: The 1988/89 Survey of Retirement and Retirement Plans, the 1999 British Household Panel Survey and the 2008/09 English Longitudinal Study of Ageing.

Table 4. Multilevel logistic regression with Relative Risk Ratios (RRR) for the relationship between three additional control variables and paid work in later life among women aged 55–64

| | Oldest cohort (born 1924–1933) | | | | Middle cohort (born 1934–1943) | | | | Youngest cohort (born 1944–1953) | | | |
| | Part-time *versus* not in paid work | | Full-time *versus* not in paid work | | Part-time *versus* not in paid work | | Full-time *versus* not in paid work | | Part-time *versus* not in paid work | | Full-time *versus* not in paid work | |
	RRR	95% CI	RRR	95% CI	RRR	95% CI	RRR	95% CI	RRR	95% CI	RRR	95% CI
Occupation (Ref. Managerial):									Not available			
Intermediate	1.75	0.87–3.55	0.93	0.49–1.77	0.91	0.39–2.09	0.72	0.35–1.50				
Routine/manual	2.21	**1.08–4.52**	1.05	0.56–1.96	0.69	0.30–1.58	0.66	0.33–1.35				
Fair/poor health in childhood	Not available				Not available				0.82	0.47–1.44	0.62	0.35–1.18
Two or more periods of ill health in adulthood	Not available				Not available				0.63	0.35–1.16	0.45	**0.25–0.81**
N respondents	1,113				605				1,290			

Notes: These models control for labour market histories, family histories, and demographic and socio-economic characteristics used in Table 3. Weighted data. CI: confidence interval. Ref.: reference category. Bold indicates RRR are significant at 5% (p<0.05).
Source: The 1988/89 Survey of Retirement and Retirement Plans, the 1999 British Household Panel Survey and the 2008/09 English Longitudinal Study of Ageing. Own calculations.
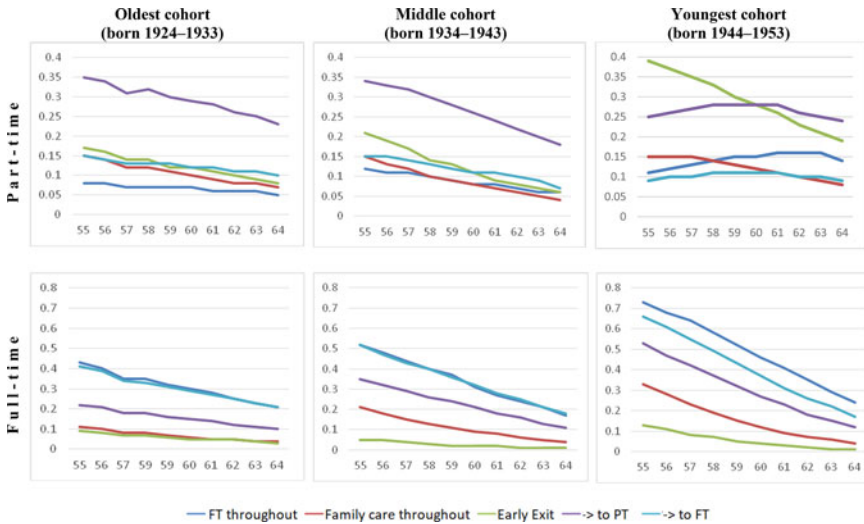
Figure 1. Predicted probabilities of full-time (FT) and part-time (PT) paid work among three cohorts, women aged 55–64.
Notes: → to FT: longer family break followed by FT. → to PT: PT workers and shorter family break followed by PT.
Source: The 1988/89 Survey of Retirement and Retirement Plans, the 1999 British Household Panel Survey and the 2008/09 English Longitudinal Study of Ageing.

other factors were controlled for. However, health disadvantage in adulthood was associated with a lower likelihood of being in full-time paid work later among women.

We also estimated predicted probabilities to help us understand changes across cohorts in the relationship between lifetime labour market histories and full- and part-time employment for women observed at ages 55–64. Figure 1 charts the predicted probabilities, controlling for other demographic and socio-economic factors, of being in paid work by single years of age. The predicted probability of being in part-time work (top panel) and full-time work (bottom panel) is on the *y*-axis (by labour market histories) and age is on the *x*-axis (Figure 1). For full-time work, the differences across cohorts by lifecourse patterns were much more marked at age 55 than they were by age 64, with the likelihood of full-time work in the late fifties increasing in each cohort (that is, the probability of being in full-time work at age 55 for those who had worked full-time throughout was around 40% for the oldest cohort and over 70% for the youngest). There was also a rise in those working full-time between ages 55 and 60 among women who had been mostly family carers; with ever-divorced women being disproportionately represented in this group (analyses not shown). For example, the probability of being in full-time work at age 55 for those who were mostly family carers increased from 10 per cent for the oldest cohort to 30 per cent for the youngest. For part-time work, the age patterns across cohorts showed less change, though a rise in the youngest cohort of women with a history of early exit who were nevertheless working part-time at ages 55–64 suggests that more complicated patterns of labour force participation are increasing.

Discussion

Our study presents empirical estimates of women's and men's experiences in the labour market across the lifecourse, as well as estimates of labour market attachment in the years surrounding SPA using nationally representative data. Regarding the former, cohort analyses demonstrated that for women, patterns of work tend towards stronger labour market attachment among younger cohorts, but even for these women, most continue to combine paid employment, often part-time, with periods of family care. Among men, while most were in full-time employment throughout, this pattern is becoming less common for more recent cohorts, while later starts – most likely from spending longer in formal education – are becoming more common and early exits from the labour market appear to have levelled off. These findings are in line with earlier work in Britain and the USA that has also shown that more women are maintaining full-time employment across the lifecourse, even though part-time employment and family breaks remain common (Worts *et al.*, 2013; McMunn *et al.*, 2015; Scherger *et al.*, 2016; Stafford *et al.*, 2019). Our findings for men are also in line with previous work showing mostly stable participation in full-time employment albeit with an increase in very early exits from paid work (here estimated at around age 50) particularly for our middle cohort born around the 1930s.

We hypothesised that labour market histories would both constrain and enable working in the years up to and beyond SPA depending on lifetime patterns of employment, along with family histories and disadvantages in later life related to finances or health. Findings from our models and estimates of predicted probabilities for women show that independent of other factors, and in line with our hypotheses, there was some evidence of both enablement and constraint. As attachment theory would suggest, and in agreement with Hypothesis 1, strong labour market attachment among women remained a significant predictor of work in later life across all cohorts; however, as evidenced by the predicted probabilities, net of other factors, the magnitude of the effect is stronger among successively younger cohorts. While less than 50 per cent of women with histories of continuous full-time work were also working full-time in later life among the oldest cohorts, the proportion in later-life work with the same history among the youngest cohort exceeded 70 per cent. In this sense, we observe consistency in labour market attachment being a driver of later-life work, but differences in the extent across cohorts. At the same time, as predicted by Hypothesis 2, women in the youngest cohort who were predominantly out of the labour market earlier in the lifecourse were more likely than previous cohorts to be in paid work around SPA net of all other factors considered, supporting the 'opportunity costs' theory and likely a result of increasing divorce rates. Moreover, independent of labour market histories, for both women and men, having children later increased the likelihood of being in paid employment, particularly among the youngest cohorts. Among women, and for the youngest cohort only, those who had experienced divorce were more likely to be in full-time work in the years around SPA. Thus, if we continue to see later childbearing but people still having children, and more people who have ever experienced divorce – this is likely to mean more people (particularly women) working in later life.

In line with previous research, our findings show the continued importance of contemporaneous factors, suggesting that irrespective of work histories, fertility histories or divorce status, those with socio-economic and health advantages are most likely to work in the years surrounding SPA. It is unlikely, and may not be feasible, for the most disadvantaged to work to later ages (Lain, 2011; Virtanen *et al.*, 2014; Dingemans and Möhring, 2019). Since poorer incomes in later life are associated with lower qualifications and earlier ill health, employment barriers may be substantial for those in greatest need of being employed around SPA (Lain, 2011).

However, we were surprised to find that social class did not seem to have a significant relationship with later-life work as some previous studies have found (Virtanen *et al.*, 2017). This may be for several reasons. First, we were only able to consider broad social class groupings for two of the cohorts, and in addition, we did not have detailed information on work-related characteristics which have also been found to be important predictors of later-life work. For instance, researchers using detailed prospective studies of employees and their working conditions found that a low physical workload, high work time control and current perceived work ability are all positively associated with working beyond statutory pension age (Virtanen *et al.*, 2017). Second, studies examining associations between occupational grade and later-life work do not often consider other related characteristics such as housing tenure, which we found to be significant (*i.e.* those with a mortgage were more likely to continue working in the years around SPA) (Virtanen *et al.*, 2017; Carr *et al.*, 2018). It may be that tenure status accounts for the association between later-life work and social class as previous studies have found (Di Gessa *et al.*, 2018).

Strengths and limitations

We investigated changes in the associations between work and family histories and contemporaneous factors in being in paid work in the years surrounding SPA using three large-scale, nationally representative UK datasets. Contributions made by the study include use of optimal matching analysis, a sophisticated analytical tool to derive meaningful patterns from the detailed life histories available in all three datasets and the illustration of changes across cohorts. Furthermore, in addition to lifetime employment patterns, we were able to consider the relationship between family lifecourses (*i.e.* partnership and childbearing histories), contemporaneous factors and later-life work for both women and men. However, our analyses have some limitations. First, in the period under analysis, SPA for women (60) and men (65) in the UK differed by five years and so the ages at which we examined the phenomena of interest necessarily differed for women and men. Second, the surveys were not designed to be comparable and some measures, particularly the health indicators, required adaptation. Third, selection bias is possible given that the ten-year cohorts capturing the same age groups across the three surveys are likely to represent individuals with different characteristics. For instance, mortality improved significantly over the period studied (*e.g.* life expectancy among women born in 1925–1929 was 61 compared to 69 for those born in 1945–1949), so that the oldest cohorts are more likely to represent healthier survivors than younger cohorts (Human Mortality Database, 2021). Moreover, those in lower socio-

economic groups also have a higher probability of dying before the age of 55 or 60 and this may be an additional explanation for the surprising finding of the lack of a significant association between social class and later-life work noted above. Fourth, while we recognise the importance of contextual factors (such as regional and/or local variations in labour market conditions) and described some broader societal changes in the introduction, our analyses did not include macro-level indicators. Fifth, our findings may not be applicable to the wider European context as some of the work trajectories (particularly the part-time employment trajectories for women) may be specific to the UK labour market. Finally, as our latest cohort of women would have been aged 68–77 in 2021 (and men would be 70–79), further work is needed to determine whether the relationships found between work and family lifecourses, contemporaneous factors and being in paid work in the years surrounding SPA are also relevant for future cohorts of older people. Recent work on the UK suggests that those who restart work after SPA following a period of non-employment are likely to do so for financial reasons (Lux and Scherger, 2018).

Policy implications

Our findings suggest that policies which enable people to maintain ties to work while balancing family demands across the lifecourse and that support good health may be more effective at encouraging later-life employment than those concerned with just the retirement transition (*e.g.* restriction of early retirement schemes, *etc.*). An extensive literature has already addressed the need to tackle health disparities across the lifecourse through health prevention and other policy measures given its central importance for later-life work (Organisation for Economic Co-operation and Development, 2017) and our analysis supports this direction. However, our findings also suggest that policies which enable women (and men) to balance work and family responsibilities across the lifecourse are also likely to be valuable for extending working lives. For example, in the UK workers have the right to request flexible working in order to meet family responsibilities (Pyper, 2018), a policy which our findings would suggest may lead to greater labour market participation at older ages by increasing lifetime employment.

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