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

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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 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 (Dannefor, 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)[b]	Women %[a] (n=1251)[b]	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[c]	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[c]	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[c]	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[c]	10.3	Employed part-time until early 20s, homemaking from early 20s; marriage and children from early 20s

Notes:
[a] Results presented as percentages as are imputed data.
[b] Descriptives given for those with at least one observed outcome (n=2,503).
[c] 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

Ideal type	Description
'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

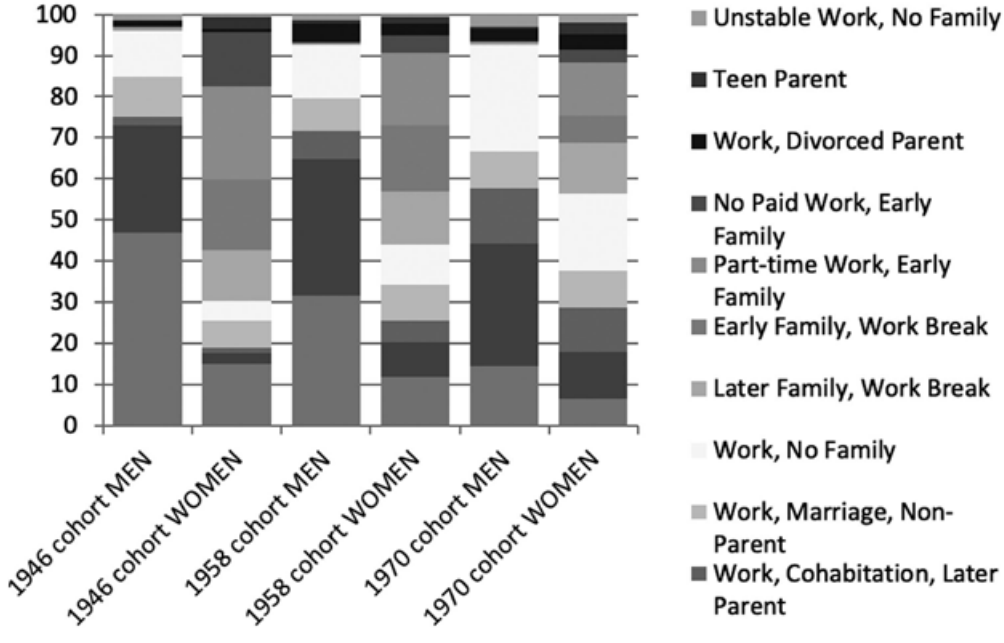
We turned to characterising the work-family lifecourses of the baby boomer and gen X generations as captured by the National Child Development Study (NCDS), a national cohort of British babies born in one week of March 1958, and the British Cohort Study (BCS) of babies born in March 1970 (Elliott and 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).

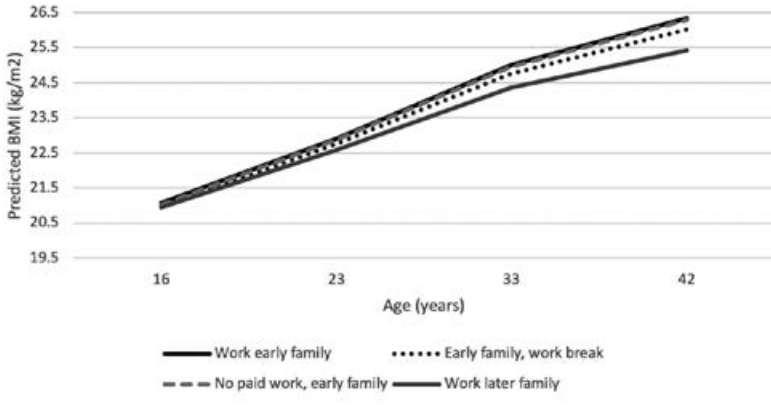
Figure 13.1 *Work-family lifecourse groups (from age 16 to 42) for women and men in the NSHD 1946 British birth cohort, NCDS 1958 British birth cohort and the BCS 1970 British birth cohort*

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.

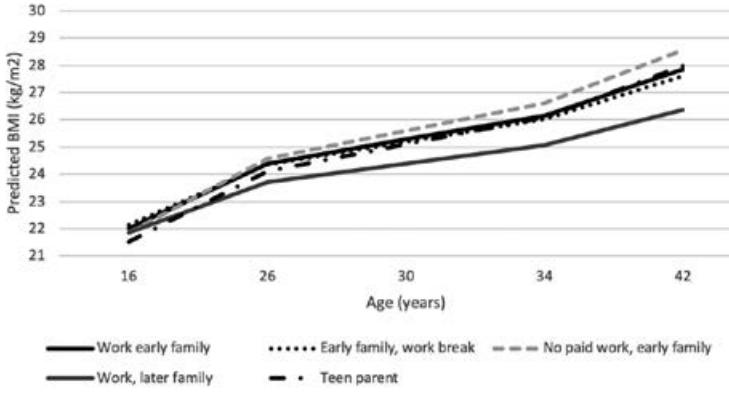
When we looked at the metabolic markers we had investigated in the NSHD, we found that lifecourses characterised by earlier transitions into parenthood were associated with significantly increased metabolic risk, regardless of attachment to paid work or marital stability over the lifecourse, and these 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 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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