Women's economic activity trajectories over the life course: implications for the self-rated health of women aged 60+ in England: Extended abstract

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1 Short abstract

Previous research has highlighted the importance of accumulated life course labour market status for understanding inequalities in health in later life amongst men. Similar research is however lacking for women despite the fact that women's role in the labour market changed substantially during the second half of the twentieth century. This paper contributes to the literature by investigating the association between women's life-course economic activity trajectories and self-rated health in later life. In addition the paper provides, for England, a new classification of women's life-course economic activity trajectories that takes the timing, sequence and duration of changing labour market status into account. We use optimal matching analysis and cluster analysis to produce a taxonomy of women's life-course economic activity trajectories based on their experiences between ages 16 and 60 years. Our results indicate that even in the socio-historical context of changing women's roles, a relatively limited set of five trajectories emerge as the dominant patterns of women's economic activity over the life course. However, we find that the more 'flexible' patterns including temporary breaks from paid employment to look after a home and family are more common among younger cohorts. In regression analysis, we further show that for women, being in full-time paid employment across the life course is not necessarily good for their later health, while women who combine full-time work with family life appear to have the most favourable outcomes. We discuss these findings with reference to the accumulation of social and economic resources over the life course and the balancing of multiple roles in work and family domains. We conclude that development of policies that facilitate women, if they wish, to successfully combine paid employment with family life could have a positive impact on their health in later life.

2 Introduction

People who are currently in older age, born in the first half of the twentieth century, lived through a period of rapid societal change, in the context of the transition from first to second modernity (Beck 1992). Key changes include the growth of individualism; the de-standardising of normative pathways through the lifecourse; population restructuring and the changing structure of the lifecourse; changing partnership and family formation; globalisation and increased mobility; and increasing social and spatial inequalities (Wadsworth and Bynner, 2011). One specific aspect is the changing role of women in the labour market, driven in part by structural changes such as the rise of white-collar occupations and the availability of part-time work.

It is argued that we cannot understand the diversity of circumstances among people currently in older age without considering their preceding life course; this may include inequalities in life chances that may cluster and/or accumulate to produce inequalities in later life; the effects of life-course labour market activity on current financial status; and continuity of social activities and networks formed during earlier life (Arber et al. 2003). Existing research shows that women's work and family histories have a profound impact on their economic resources in later life, although such impact is mediated to some extent by the particular welfare context in which they live (Sefton et al. 2011a; Sefton et al. 2011b).

Taken together, these factors highlight the importance of investigating how women's life-course economic activity patterns have developed over the twentieth century and how such patterns might potentially influence their health and wellbeing in later life. The latter issue is particularly relevant in the British context given evidence that health inequalities persist across the life course and into older age (Grundy and Holt 2000; Marmot et al. 2010). To inform policies that addresses this issue, there is a need to increase understanding of the processes by which diseases and disorders develop throughout people's lives, for example the extent to which health status presents an accumulated advantage or disadvantage across the life course (Hareven and Trepagnier 2000) or the impact of balancing work and family life upon later health outcomes (Kotler and Wingard 1989).

In part due to data constraints, much previous work that attempted to take a life course perspective on women's economic activity trajectories has focussed on particular age groups or cohorts of women, with life-course experiences based on relatively basic summary measures such as the number of years spent in paid employment. More recently, data have started to become available that allow researchers to examine women's entire adult life course by utilising retrospectively-reported life histories. One particularly rich source of data is the SHARELIFE survey, which allows detailed investigation of life-course labour market experiences in a number of European countries (Leoni 2013; Lyberaki et al. 2013). However, such work tends to be comparative and does not tend to focus on outcomes. Moreover, Britain is not included in the SHARE portfolio of countries, but is represented (although only including England) in SHARE's 'sister' study, the English Longitudinal Study of Ageing (ELSA).

This paper uses data from the ELSA life histories to contribute an English perspective on the diversity of women's labour market experiences over the life-course, their interaction with family life and their impact upon women's health outcomes in later life. In particular, we aim to move beyond simple measures of accumulation of e.g. time spent in full-time employment, to incorporate the sequence, timing and duration of economic activity experiences over the life course. We aim to answer the following research questions:

1. Can distinct trajectories of economic activity over the life course, incorporating the sequence, timing and duration of experiences, be identified for women aged 60+ in England?
2. How are these trajectories of economic activity associated with self-rated health in later life?

We anticipate that despite the more active and varied role of women in the labour market that characterises the move to second modernity, women born in the first half of the twentieth century will still follow a relatively narrow range of economic activity trajectories, in part due to continuing structural constraints such as occupational segregation and the gender pay gap and cultural constraints such as expectations for women to be the primary caregivers for dependent children. Nevertheless, we expect to find some variation in women's economic activity trajectories by cohort, in particular an increased heterogeneity of experiences for younger cohorts.

As our outcome measure, we use self-rated health (SRH) as a 'global' measure of health and well-being that is consistently shown to predict mortality (Mossey and Shapiro 1982) and to correlate with both physical and mental health (Singh-Manoux et al. 2006). There is also evidence that SRH is determined in part by life course experiences – for example, research using data from the 1958 British birth cohort suggests that accumulated socioeconomic disadvantage over the life course can have a significant impact on self-rated health in later life (Power et al. 1996). Assuming that both paid employment and family life can contribute to the accumulation of social and economic resources over the life course, we expect that combining both of these roles successfully will maximise the accumulation of positive experiences. This reflects previous work suggesting that successfully balancing multiple roles can have a beneficial effect on health (McMunn et al. 2006).

3 Data and methods

3.1 The English Longitudinal Study of Ageing

We use the English Longitudinal Study of Ageing (ELSA) to examine the trajectories of economic activity over the life course among 2,162 women aged 60 years and older. The survey collects data from a representative sample of the English population aged 50 and over relating to their health and disability, economic circumstances, social participation, networks and well-being. The original sample of ~12,000 respondents was drawn from the Health Survey for England. In 2006-7 (ELSA Wave 3), respondents completed a life history interview that provides detailed information about their work, family and residential histories across their entire life course. We use these data to reconstruct women's work histories from ages 16-60 years, coding their economic activity annually to produce a sequence of 45 time-points per individual. Economic activity is classified using a six-category variable:

1. Employed full-time
2. Employed part-time
3. Looking after home/family
4. Unemployed/other inactive
5. In education/training
6. Retired

3.2 Optimal matching and cluster analysis

To classify the patterns of economic activity experienced by women over their lives, we use optimal matching analysis (OMA). In brief, OMA works by measuring the "distance" between pairs of sequences, the distance being based on the minimum number of operations (insertion, deletion and substitution of states) needed to turn one sequence into the other. The output of OMA is a matrix that specifies the 'distance' between each pair of sequences, which can then be used as the basis for additional analysis to identify distinct groups within the data. We carry out an OMA followed by cluster analysis using Ward's linkage, which produces clusters based on a weighted average of distances between variables.

3.3 Logistic regression analysis – self-rated health

Using the classification of life-time economic activity status produced using the OMA and cluster analysis, the second stage of our research involves logistic regression analysis to investigate the value of the classification in predicting self-rated health in later life. Additional covariates include both cross-sectional measures of current circumstances (marital status, occupational class, and housing wealth) and summary variables indicating life-course experiences in the work and family domain (number of children, % of life in part-time work).

4 Results

4.1 Optimal matching and cluster analysis

Based on our exploratory analysis, a five-cluster solution appeared to be the best in distinguishing different trajectories of economic activity in this sample. Figure 1 shows a summary of the life-course trajectories of economic activity experienced by women in each cluster. Table 1 provides some descriptive statistics regarding the current and life-course characteristics of the groups. We name the clusters as follows:

1. Full-time workers;
2. Family carer;
3. Full-time returners;
4. Part-time returners; and
5. Atypical/inactive.

4.1.1 Classification and characteristics of trajectories

Cluster 1 (full-time workers) shows a group who spend the majority of their working lives in full-time employment. They are the group with the smallest mean number of children and partners, further suggesting relatively limited engagement with family life. In contrast, cluster 2 (family carers) represents women who spent the majority of their lives looking after a home/family. These two groups are, on average, somewhat older than the other three. Groups 3 (full-time returners) and 4 (part-time returners) demonstrate two versions of women who combine family life with either full-time or part-time work. Cluster 5 (atypical/inactive) shows a small group of women who for a substantial proportion of their adult lives, do not define themselves as active in either work or family but instead are classified as unemployed or otherwise economically inactive.

Overall, full- and part-time returners represent the largest proportion of the sample, together accounting for half of the women included in our analyses. These two groups are remarkably similar in many respects – for example, in terms of their mean age, age when they left education, age at first marriage and birth, and mean number of children. Apart from the different balance of full- and part-time work, the other main difference is that full-time returners are more advantaged in terms of their (current) occupational class, being twice as likely to be in NSSEC class 1 (higher managerial/professional) as are part-time returners (25.6% versus 12.4%).

4.2 Explanatory analysis – predicting self-rated health

Table 2 shows the results of logistic regression analysis predicting self-rated health at Wave 3 interview. The results show that in model 1, controlling only for age at interview, the full-time and part-time returners are significantly less likely to have fair/poor self-rated health than the full-time workers reference group. The atypical/inactive group are more likely to have fair/poor health, which likely reflects the high proportion of women classified as economically inactive due to long-term sickness.

In model 2, adding indicators of economic/financial resources, full-time returners remain significantly less likely to be in poor health – in fact, the magnitude of this association increases. This suggests that this association is not just reflecting accumulation of financial resources in this group. In model 3, indicators of potential family resources are added (marital status and parity) and the association still remains statistically significant at the 5% level. In model 4 partner's NSSEC is added for a smaller subgroup who have a partner in the household at interview in wave 3. Although the association between the full-time returners group and reduced odds for poor self-rated health is no longer statistically significant (likely due to the substantially reduced sample size) the odds ratios still indicate that this group is doing best in terms of their self-rated health.

5 Discussion

Our results for women currently aged 60+ in England indicate that despite changes to the role of women in society during the twentieth century, a relatively limited set of trajectories emerge that encapsulate the dominant patterns of women's economic activity over the life course. As expected, we find that the more 'flexible' patterns combining time out of the paid labour market to look after a home and family are more common among younger cohorts. Our findings further suggest that women's trajectories of economic activity do appear to have an impact on their self-rated health in later life. We find that for women, being in full-time paid employment across the life course is not necessarily good for their later health, while women who combine full-time work with family life appear to have the most favourable outcomes.

One explanation for our finding regarding the health of full-time workers is that they are the group least likely to have support from an immediate family, as they tend to marry later than the other groups (if they marry at all) and are the group least likely to repartner. There is well established association between marriage and improved mortality and morbidity (eg. (Johnson et al. 2000)) for women to a lesser extent than for men , which is explained by the combination of marriage conferring improved economic circumstances, better health behaviours, lower stress and increased social support, or alternatively the idea that healthier people are selected into marriage (Ben-Shlomo et al. 1993; Arber 2004). Full-time workers are also the group with the lowest mean number of children, suggesting they have less access to social and material support from children in later life. However, even when we controlled for these factors in our logistic regression analysis, this group remained the one with the least favourable self-rated health outcomes.

An alternative explanation for such differences lies in the consideration of the extent to which women are able to balance multiple roles. There is a body of research that discusses the relationship between women's economic activity and health in terms of two competing theories relating to inhabiting different roles in different domains of life (Arber et al. 1985; Martikainen 1995). First, the 'role strain' or 'multiple burden' hypothesis suggests that the competing and accumulating demands associated with occupying multiple roles in working and family life can result in increased strain and stress levels, with a detrimental effect on women's health (Goode 1960; Martikainen 1995; Lahelma et al. 2002). Second, the 'role accumulation' or 'role enhancement' hypothesis suggests that multiple roles enhance women's access to financial, social and emotional resources and hence have a positive impact on their health and wellbeing (Sieber 1974; Fokkema 2002; Lahelma et al. 2002).

Previous work suggests that associations between multiple role occupancy and health are highly dependent upon the nature of these multiple roles and the health outcomes in question, and there is no clear consensus as to whether the overall effects on health are positive or negative (Evandrou and Glaser 2004; McMunn et al. 2006). However, it is suggested that multiple role occupancy is particularly important in later life, at a time when a reduction in roles is often more common and when social integration may be an important determinant of health (Moen et al. 1992). Our findings suggest that women who occupy one 'major role' (i.e. 'worker' in paid employment) throughout their life course are disadvantaged in terms of their later health compared with those who combine roles within work and family domains. In contrast, women who are able to combine full-time employment with family life, and who may therefore be more able to benefit from the accumulated social and economic resources associated with these roles, as well as cope with the associated pressures, appear to have significantly better health outcomes in later life their peers. We therefore provide tentative support for the 'role accumulation' hypothesis.

These preliminary results require cautious consideration, as a range of other indicators about work and family life, such as the nature of women's work, their earnings, and the spacing of childbearing are not included in this analysis. In addition, in developing this work we will need to address further limitations such as the problem of

health selection into the sample under analysis. Nevertheless, we believe that the initial findings presented here show the potential of this work to make a valuable contribution in providing, for England, a new classification of women's life-course economic activity trajectories that takes the timing, sequence and duration of changing labour market status into account and can, in turn, help predict women's health and wellbeing in later life.

5.1 Conclusions

Our findings suggest that policies that allow women, if they wish, to successfully combine paid employment with family life can have a positive impact on their health in later life. Such policies might include increasing the provision of affordable childcare so that women have the option of returning to work full-time even if their job is not highly paid. In turn, policies which encourage the combination of multiple roles over the lifecourse may also produce benefits for women's pension contributions and broader economic resources in later life, which can further increase women's choice over their life trajectory. Given that self-rated health is consistently shown to be a significant predictor of mortality, our findings may also have wider implications for the longevity and the ageing of future cohorts of women in England.

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APPENDIX: Tables and figures

Table 1: Cluster characteristics

	ECONOMIC ACTIVITY TRAJECTORY CLUSTER					
	1 Full-time workers	**2 Family carers**	**3 Full-time returners**	**4 Part-time returners**	**5 Atypical/ inactive**	**Total**
Weighted % of sample	23.42	20.38	23.36	24.59	8.25	100
Mean age at interview	75.95	76.77	73.51	74.07	75.17	75.02
Mean age left education	19.95	15.35	16.92	15.74	16.06	16.95
Mean years of life in employment:						
Total	35.98	9.40	30.48	28.90	16.79	25.95
Full-time	33.09	7.79	25.32	8.11	11.62	18.20
Part-time	2.90	1.62	5.16	20.79	5.17	7.75
Mean age at retirement	58.72	62.00	60.03	58.79	49.41	58.77
Mean age at first marriage	25.78	23.25	22.00	22.41	22.40	23.15
Mean number of partners	0.98	1.07	1.18	1.07	1.19	1.09
Mean age at first birth	26.88	25.84	24.27	25.07	24.58	25.31
Mean age at last birth	31.58	31.97	29.64	30.67	30.46	30.83
Mean number of children	1.48	2.50	2.51	2.42	2.29	2.23
% in NSSEC group:						
1 Higher managerial/professional	32.90	13.06	25.62	12.35	14.91	20.62
2 Intermediate	29.51	28.30	29.94	23.76	31.56	28.12
3 Routine/manual	34.60	48.82	43.93	61.97	47.25	47.45
4 Long-term unemployed	3.00	9.82	0.50	1.92	6.28	3.81
Current partner[1] - % in NSSEC group:						
1 Higher managerial/professional	42.91	39.12	36.12	38.08	38.17	38.70
2 Intermediate	21.29	19.45	22.59	19.53	17.95	20.49
3 Routine/manual	35.80	39.13	40.82	41.95	43.88	40.07
4 Long-term unemployed	0.00	2.31	0.47	0.45	0.00	0.74

note: descriptives refer to characteristics measured for ages 0-60 (employment, 16-60).
[1]Partner characteristics only available for respondents who have a co-resident partner at wave 3 who also provides a valid interview response (n=958)

Table 2: Results from logistic regression analysis predicting self-rated health at interview in Wave 3.

	Model 1	Model2	Model 3	Model 4
Cluster group (ref 1. Full-time workers)				
2. Family carers	0.96	0.89	0.94	1.24
3. Full-time returners	0.73*	0.69*	0.71*	0.77
4. Part-time returners	0.79†	0.77	0.82	0.89
5. Atypical/inactive	1.50*	1.43†	1.47†	1.87†
Age group at interview (ref 60-69)				
70-79	1.26*	1.15	1.18	1.18
80+	1.58***	1.29†	1.33†	1.52
NSSEC (ref 1: Higher managerial/professional)				
2. Intermediate		0.90	0.91	0.96
3. Routine/manual		1.75***	1.74***	1.85*
4. Long-term unemployed		1.59	1.61	3.34†
Housing wealth band (ref none)				
£1-149999		0.71*	0.71*	0.60†
£150-299999		0.47***	0.47***	0.43***
£300-449999		0.32***	0.32***	0.28***
£450000+		0.20***	0.20***	0.15***
% of life in part-time work		0.99	0.99	1.00
Number of children (ref none)				
1			0.90	1.00
2			0.83	0.67
3+			0.94	0.71
Current marital status (ref never married)				
Married (first marriage)			0.99	0.63
Remarried			1.39	1.14
Divorced			0.98	0.97
Widowed			0.99	-
Partner's NSSEC (ref 1: Higher managerial/professional)				
2. Intermediate				1.01
3. Routine/manual				1.04
4. Long-term unemployed				0.53
N	2160	2160	2160	923

Exponentiated coefficients

†*p<0.10,* * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 1: Trajectories of economic activity over the life course according to OMA cluster.