

Informal Care Provision and the Reduction of Economic Activity Among Mid-Life Carers in Great Britain – A Mixed-Methods Approach

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Informal care provision is an integral part of the long-term care system. However, it has been shown to have negative effects on the carers' economic activity, and understanding the mechanisms behind this is crucial for social policy design. This study provides new insight into mid-life carers' decisions to reduce their economic activity through a convergent mixed-methods design. Quantitative analysis of a sample of 2,233 carers aged fifty from the National Child Development Study (NCDS) Wave 8 with follow up at age fifty-five, and qualitative analysis of in-depth interviews of forty-eight carers between 2008-2010, were used. The combined results indicate that being female, single never married, having financial issues, being an employee, and frequently meeting a parent are associated with economic activity reduction; the carers' own perspectives further elucidate key factors, such as their value and identity, family structure, life course events, and care intensity, which affect their decisions.

Keywords: Informal parental care, midlife, economic activity, mixed-methods, National Child Development Study.

Introduction

In the context of population ageing, informal care provision (i.e. unpaid care provision by friends or family members) to a frail or dependent adult is becoming increasingly prevalent especially during one's midlife (Robards *et al.*, 2015; Gomez-Leon *et al.*, 2019), and is increasingly important for the future (Pickard *et al.*, 2007). Approximately 5.8 million people were providing informal care in England and Wales in 2011, representing

approximately one in ten of the total population of England and Wales (White, 2013). Many working carers face the challenge of juggling paid work and caregiving (Gomez-Leon *et al.*, 2019). Previous studies in the UK and internationally suggest that the provision of care can have a negative impact on the carer's economic activity and earnings (Carmichael *et al.*, 2008; Stewart, 2013; Van Houtven *et al.*, 2013). Among all carers, those who are aged between fifty and sixty-four face a higher risk of employment exit, which brings substantial economic costs to both carers and the government (Glendinning *et al.*, 2009; Schofield *et al.*, 2019).

Despite the apparent association between caregiving and employment reduction, less is known about the underlying mechanisms that urge midlife carers to reduce or stop their employment altogether, especially from the carers' own perspective. Although some existing studies have explored factors related to changes in carers' employment patterns (Austen and Ong, 2013; Schneider *et al.*, 2013; Jacobs, *et al.*, 2017; Wildman, 2020), few have combined qualitative and quantitative evidence to provide a comprehensive understanding of the reasons behind carers' reduction of their economic activity. Such investigation is important in order to better recognise challenges that working carers face and support them in staying active in the labour market should they wish. This study aims to fill the gap. We utilise the National Child Development Study, a cohort study combining quantitative longitudinal data and qualitative in-depth interviews to understand midlife carers' decision on economic activity reduction. Our study contributes to the literature by integrating existing theories which explain employment reduction among informal carers and using a British cohort dataset which combines both quantitative and qualitative evidence, thereby adding new insights to existing theories from the midlife carers' own perspectives.

Theorising informal carers' economic activity reduction

Informal carers' decision to reduce their economic activity can be a complex one; some reasons may relate to the carers' own views about employment and care provision, while others are extrinsic factors triggering the decision to reduce one's employment. In the following, we summarise five existing approaches which help understand carers' decision of economic activity reduction. These approaches are not mutually exclusive but assist in theorising the relationship between paid work and unpaid caring work.

Gender approach

The gender approach highlights the economic bargaining theory and the gender ideology theory in explaining men and women's inequality in terms of domestic care and work participation, and different decisions when facing care and employment conflicts (McMunn *et al.*, 2020). Under this approach, men tend to earn more and are able to negotiate less domestic care work, and in addition, gender norms regard men as traditional family breadwinners who are less responsible for, or even exempt from, family obligations. Previous empirical research has suggested that women were more likely to provide care during their working age (Evandrou *et al.*, 2002; Vlachantoni, 2010), and more likely to reduce or stop their employment (Carmichael and Charles, 2003; Daatland *et al.*, 2010; Gomez-Leon *et al.*, 2019). When employed, female carers are more likely

than male carers to work fewer hours and earn less (Carmichael *et al.*, 2008; Brekke and Nadim, 2017).

Cultural approach

The cultural approach emphasises the influence of filial obligations and intergenerational solidarity on individuals' decisions on caring and employment. The gendered norm of intergenerational support suggests that daughters have a higher sense of filial obligations towards their parents than sons (Suitor and Pillemer, 2006), and the decision to combine caring and working is inherently gendered (Tarum and Kutsar, 2018). However, other research has argued that filial obligation is only associated with individuals' intentions, rather than their actual decisions to reduce their employment (Paulson *et al.*, 2017).

Care burden approach

In contrast, the care burden approach contends that carers who provide long hours of care are more likely to reduce their economic activity. For example, twenty hours have been used as a threshold above which a reduction of employment tends to occur (Heitmueller, 2007; Paulson *et al.*, 2017). King and Pickard (2013) used a lower threshold, suggesting that men and women in their fifties were less likely to remain in employment if they cared for ten or more hours per week. Providing more intensive care (Gomez-Leon *et al.*, 2019), and a longer duration of the caring episode, e.g. longer than one year (Casado-Marín *et al.*, 2011), are also negatively related to the carers' employment (Carmichael *et al.*, 2008).

Living in the same household with the care recipient has a negative effect on the carers' future employment prospects as it suggests a higher care intensity (Michaud *et al.*, 2010). Being the main caregiver also results in a higher care burden and a lower risk of caregivers being employed, regardless of the carer's gender (Nguyen and Connelly, 2014).

Socio-economic and demographic approach

This approach suggests that the carers' decision about their economic activity is related to their socio-economic and demographic characteristics. Previous research found that carers with financial pressure were less likely to exit the labour market (Arksey *et al.*, 2005). Having poor health and being single/never-married also decreased the probability of working (Gomez-Leon *et al.*, 2019), and women who were married or who had dependent children were less likely to be working than those who were single and without dependent children (Meng, 2013). Childless female carers, compared with female carers with dependent children, were less likely to stop working, but more likely to stop working than women with adult children (Henz, 2004).

Institutionalist approach

This approach notes that individuals' decisions on whether to remain in employment or provide care are determined to a large extent by social care regimes (Tarum and Kutsar, 2018; Olsen, 2020). In Europe, for example, Nordic countries offer more formal care, and the effect of caregiving on female carers' employment is less negative compared to Southern European countries, where more pronounced gendered care norms exist and

where the effects of informal care on women's employment are more negative (Kotsadam, 2011; Naldini *et al.*, 2016).

Studies on the impact of care-related policies on carers' employment have shown complex results. Some have found that supportive social policy has a positive effect on the employment rate among men and women aged fifty to sixty-four in England (Yeandle and Buckner, 2017). By contrast, a German study argued that the Carers' Allowance did not have a significant influence on the carers' decisions on economic activity, as it only ranged from € 215 to € 665 per month and was too low in value to cover the cost of care (Meng, 2013)¹. Research in England found that the Carers' Allowance may place carers in a benefits trap which may act as a disincentive for taking on paid work (Arksey and Glendinning, 2008), as there is an earnings threshold which determines eligibility for this benefit (Carmichael *et al.*, 2008)¹.

The studies discussed above have provided insights into carers' decisions around caregiving and economic activity. Against the background, this article uses a mixed methods approach in order to address the following research question:

What factors affect the economic activity of working, mid-life carers in Great Britain?

Research design and methods

Data source and instruments of data collection

The data for this article were drawn from the National Child Development Study (NCDS), an ongoing longitudinal study with data from approximately 17,000 children born in a single week in March 1958 in England, Scotland and Wales at ages seven, eleven, sixteen, twenty-three, thirty-three, forty-two, forty-six, fifty and fifty-five (Power and Elliott, 2005). As the survey was not conducted in Northern Ireland, this article focusses on Great Britain rather than the UK. This article used data on all respondents from the quantitative survey when they were aged fifty and fifty-five, and data from qualitative interviews of a sub-sample at age fifty. Both the Computer Assisted Personal Interviews (CAPI) which created the survey and the in-depth interviews were conducted by experienced researchers in the Centre for Longitudinal Studies (CLS) in the University of College London (Elliott, 2008). Ethics approvals were obtained from the NCDS team at the CLS; and the University of Southampton's Ethics and Research Governance Committee.

Mixed methods research design

Mixed methods were adopted by this study, aiming at the integration of quantitative and qualitative data in terms of the project design, methods and interpretation levels (Fetters *et al.*, 2013). The two types of data were collected using a longitudinal and multistage design, incorporating a convergent design when the respondents were aged fifty (Fetters *et al.*, 2013). A convergent design was used to illustrate and enrich the quantitative results with qualitative findings, and to obtain complementary data to address the research questions (Tashakkori and Teddlie, 2003). The integration of the two data types commenced by connecting the sampling frame, whereby the respondents who had participated in the in-depth interviews were linked with their records from the quantitative

survey (Fetters *et al.*, 2013). The two databases were merged for analysis, embedding rich qualitative data into the patterns identified in the quantitative data (Creswell and Tashakkori, 2007). The integration at the interpretation stage was facilitated by a 'weaving' approach of 'integrating through narrative', writing both quantitative and qualitative findings on a theme-by-theme basis (Fetters *et al.*, 2013: 2142).

The mixed methods approach was instrumental in terms of addressing the research questions, and also ensuring the validity and reliability of the research design (Zohrabi, 2013). This approach allowed us to build triangulation checks into the methodology, and 'weave' qualitative insights into the quantitative patterns (O'Cathain *et al.*, 2010). We were guided by Teddlie and Tashakkori's (2003: 35-6) concept of 'inference quality', covering the quality of design and the rigor of interpretation. For the former, our study relied on instruments and variables which have undergone piloting and peer-review procedures in the CLS, and for the latter we ensured there was space both for convergence and for dissonance in the findings (O'Cathain *et al.*, 2010).

Analytical sample selection and variables

The analytical sample included two sub-groups. For the quantitative analysis, data from wave 8 (2008), when the respondents were aged fifty, and wave 9 (2013-4), when they were aged fifty-five, were used to investigate the change of economic activity patterns among carers. This sample consisted of respondents with at least one parent/parent-in-law alive, who were engaged in full- or part-time employment in wave 8, and who provided care to a parent/parent-in-law in both waves 8 and 9 ($N = 2,233$). The reduction of economic activity was reflected by carers who were working full- or part-time in wave 8, and who had switched by wave 9 from full-time to either part-time or no employment; or from part-time to no employment (grouped as 1). Respondents who reported no change or increase in their economic activity between the two waves were grouped as 0. We grouped the two categories of respondents reducing their employment to part-time or stopping altogether, for two reasons: firstly, because our main interest was in understanding the reduction of employment at the same time as caring, whether such reduction means fewer hours or no hours at all; and secondly, because merging these two categories increased the cell count overall and allowed us to conduct this analysis. The limitations of this approach are discussed further at the end of the article.

For the qualitative analysis, data from 220 in-depth, semi-structured interviews with respondents aged fifty focused on six broad topics: sense of belonging, personal communities, social participation, identity and life history and participation reflection. Each interview lasted around ninety minutes. The 220 interview files were linked with the survey data on the same respondents, and 122 informal carers were identified, who responded positively about providing informal care. Out of these, only forty-eight carers mentioned their care provision during the interviews, and among those, only four carers referred to a reduction in their economic activity. Among the forty-eight carers, thirty (62.5 per cent) were females and eighteen (37.5 per cent) were males. Four carers provided twenty hours of care or more, five carers provided between ten-nineteen hours, and thirty-nine carers provided fewer than ten hours of care per week. More than half of the sample (27 carers) were in full-time employment, fifteen were working part-time; and six carers were not working.

Quantitative and qualitative data analysis

Multivariate logistic analysis was conducted to identify the associations between the reduction of economic activity between wave 8 and 9, and a range of demographic and socio-economic factors measured in wave 8 as highlighted in previous relevant research (Vlachantoni, 2010; King and Pickard, 2013; Gomez-Leon *et al.*, 2019).

The demographic characteristics included gender and marital status, the latter including four categories: single never married, married, divorced/separated, and widowed. The respondents' health status was measured using self-reported health, which has been shown to be a reliable indicator of individuals' general health status (Burström and Fredlund, 2001). The original five categories included excellent, very good, good, fair and poor; and the derived variable for the present analysis combined the first three categories in order to create a three-category variable measuring overall good health, fair and poor health. The respondents' socio-economic characteristics included their personal assessment of their financial situation using five categories (living comfortably, doing alright, just about getting by, finding it quite difficult, finding it very difficult), in order to include the respondents' own perspective in the analysis, and also their type of employment (self-employed, employee with managerial responsibilities, employee without managerial responsibilities), in order to distinguish between different employment types which can impact on the balance between paid work and care provision differently (Kikuzawa and Uemura, 2020). Finally, we included a measure of the frequency of the respondent meeting with their mother and/or father, as a dimension of the respondent's relationship with their parent(s), distinguishing between respondents who met with their parent(s) at least once/twice a week (meeting frequently with parents); and those who met with their parent(s) less frequently (not meeting frequently with parents).

The analysis also considered the carers' educational attainments (Paulson *et al.*, 2017), the number of hours of care provided per week (Gomez-Leon *et al.*, 2019), the parents' living arrangements (Heitmueller, 2007), ethnicity (Robards *et al.*, 2015), housing tenure (owner occupier, renter, others) (Heitmueller, 2007), and whether the carer had a close relationship with their parent (Paulson *et al.*, 2017; Tarum and Kutsar, 2018). However, these factors were not included in the final model as they were not significantly associated with the carers' reduction of economic activity.

The qualitative data was analysed using thematic analysis (Braun and Clarke, 2006). One of the researchers on the project (NW) read all the interview transcripts and created an initial list of themes emanating from the interviews, which related to the topic of the research. The full research team (AV, NW, ZF, JF) discussed the emerging themes highlighting similarities and differences between the interviewees, considering new insights which might not be in line with existing knowledge, and discussing the reasons for such discrepancies. In line with Nowell and colleagues (2017), the team reviewed and refined the emerging themes, discussing these against quantitative patterns. The final findings were confirmed following external peer review by a group of trained social care researchers as part of a seminar (Onwuegbuzie and Johnson, 2006). Direct quotes from participants are reported to aid the interpretation and demonstrate prevalent themes (King, 2004).

The quantitative analysis was conducted using STATA 13 (StataCorp, 2013), while the qualitative analysis was conducted using NVivo 11 (NVivo Qualitative Data Analysis Software, 2015).

Table 1 Change of economic activity between wave 8 and wave 9 among the carers who have at least one parent/parent-in-law alive

Between wave 8 and wave 9	Frequency	Per cent (%)
No change or increase in economic activity	1,926	86.2
Reducing/stopping economic activity	307	13.8
Total	2,233	100.0

Source. Authors' analysis of NCDS wave 8 and 9.

Findings

Drawing on the 'weaving' approach of integration, this section outlines how findings emerging from the in-depth interviews are combined with findings from the statistical analysis to shed light on the factors underlying the reduction of economic activity among informal carers in mid-life. When compared with the results from the descriptive analysis, the results from the logistic regression analyses show these factors' robust associations with the risk of reducing one's economic activity between the two waves, even when controlling for different possible influences.

Among all 2,233 carers with at least one parent/parent-in-law alive in waves 8 and 9, 1,926 carers had experienced no change or increase in their economic activity over the two time points, while 307 reduced their economic activity (13.8 per cent of total sample) (see Table 1).

Table 2 shows the characteristics of all working carers in wave 8: and among them, of those carers who had reduced their economic activity between waves 8 and 9. Carers in this sample were more likely to be men (54.1 per cent), which is contrary to the gender distribution of the caring population at this stage of the lifecourse, and is likely due to the fact that our analysis focuses on carers who were either in full- or part-time employment. However, both the bivariate (Table 2) and multivariate (Table 3) analyses highlighted being female as a significant predictor of reducing one's economic activity between waves 8 and 9. Table 2 shows the factors which were significantly associated with the reduction of economic activity among working carers between the two waves, including gender. Table 3 shows the factors associated with the reduction of economic activity among carers in the form of average marginal effects, which indicate how one's economic activity changes when a factor changes, and all other covariates are assumed to be held constant. Holding all other variables at their means, this Table shows that the predicted probability of women reducing their economic activity is 0.05 greater than among men. Among the interviewees, only female carers had stopped or reduced their economic activity, and the interviews suggested that women provided more intensive care, covering personal and instrumental care, and emotional support, whereas men often undertook financial responsibility and provided less intensive support such as gardening, maintaining the house or transporting. For example, one male carer who worked full-time referred to providing support with transportation and daily chores for his parents/parents-in-law in the interview.

In addition, women's predominance in the sample among carers reducing their economic activity may relate to the respondents' gender identity, with men having a

Table 2 Characteristics of carers in wave 8 and characteristics of carers who had reduced their economic activity between wave 8 and 9

	Column per cent (number of working carers) in wave 8	Of which the row per cent (number of working carers who had reduced their economic activity between wave 8 and 9)
Gender		***
Men	54.1 (1,208)	11.0 (133)
Women	45.9 (1,025)	17.0 (174)
Marital status		***
Single never married	7.7 (173)	25.4 (44)
Married	78.0 (1,741)	13.0 (227)
Separated/divorced	13.5 (302)	11.9 (36)
Widowed	0.8 (17)	0 (0)
Self-reported health		***
Good	89.6 (2,000)	13.2 (264)
Fair	8.6 (193)	16.1 (31)
Poor	1.8 (40)	30.0 (12)
Whether has a child alive		***
Yes	82.6 (1,845)	12.5 (231)
No	17.4 (388)	19.6 (76)
Personal assessment of financial situation		**
Living comfortably	42.4 (948)	15.1 (143)
Doing all right	34.2 (764)	13.4 (102)
Just about getting by	18.7 (417)	9.8 (41)
Finding it difficult	4.7 (104)	20.2 (21)
Employment status		**
Self-employed	15.8 (354)	9.3 (33)
Employee: supervisor/manager	39.3 (877)	13.0 (114)
Employee	44.9 (1,002)	16.0 (160)
Whether frequently meets their father or mother		**
Yes	58.4 (1,304)	12.5 (163)
No	41.6 (929)	15.5 (144)

Source. Authors' analysis of NCDS wave 8 and 9. Note. Asterisks indicate the results of Chi-square Pearson tests within each characteristic. ***p<0.01, **p<0.05, *p<0.1

stronger sense of being 'bread-winners', which may have a positive effect on continuing or increasing their economic activity, as explained by this respondent:

I'd been used to earning the money more than having to be at home with the kids, or doing part-time work, when I suddenly wasn't doing any of those things you start to think, well, you know, am I less of a man? (NO.082, male, married)

Table 3 Average marginal effects from logistic regression of factors associated with a reduction of economic activity among carers

	Average Marginal Effects	95% Confidence Interval (low)	95% Confidence Interval (high)
Gender			
Male (reference)			
Female	0.05***	0.02	0.08
Marital status			
Married (reference)			
Single never married	0.08**	0.01	0.15
Separated/Divorced	-0.01	-0.05	0.03
Widowed			
Self-reported health			
Good (reference)			
Fair	0.03	-0.03	0.08
Poor	0.15**	0.01	0.29
Whether has a child alive			
Yes (reference)			
No	0.03	-0.01	0.07
Personal assessment of financial situation			
Finding it difficult (reference)			
Living comfortably	-0.06	-0.14	0.03
Doing all right	-0.07*	-0.15	0.01
Just about getting by	-0.11***	-0.19	-0.03
Employment status			
Self-employed (reference)			
Employee-Supervisor/manager	0.03	-0.01	0.07
Employee	0.05***	0.01	0.09
Whether frequently meets their father or mother			
No (reference)			
Yes	0.03**	0.00	0.06

Source. Authors' analysis of NCDS wave 8 and 9. Note. Asterisks indicate the results of Chi-square Pearson tests within each characteristic. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Comparatively, female respondents often revealed a more family-oriented and caring approach, and a willingness to spend more time supporting other family members:

I don't really do anything apart from it's related to the family. I'm very-, quite family orientated. (NO.056, female, married)

Carers were also more likely to be married (78.0 per cent) – however, once providing care and working, it was those who were single never married who were more likely to

reduce their employment compared to those who were married. This was also illustrated in the interviews:

[My brother-in-law] has never left home, he had epilepsy and sort of health problems, never had a girlfriend in his life as far as I know, and he's—, he's sixty-two coming up, it's quite sad really and he's living at home which means the only way [my husband]'s mother [living with Alzheimer's] is still living at home is because his brother's there. (NO.026, female, married)

Among those who had reduced their economic activity, a higher percentage were childless (19.6 per cent, Table 2). Although this characteristic was not statistically significant in the multivariate analysis (Table 3), the interviews revealed that being childless contributed to some carers' financial freedom and decisions about retirement:

We've been very comfortable not having the children, they are a huge expense obviously, so of course that's given us enormous freedom and we've been able to plan our lives I suppose very well and we always, always had early retirement on the bill. (NO.149, female, married)

The same respondent described how her close relationship with her parents and husband, which was partly due to being childless, in turn made her prioritise her parents' needs when there were conflicts between caring and working:

Oh yes. [Being an only child is] A huge label, huge label. Yes. So closer to mum, probably because over the years she's needed me more . . . we're very, very much together. Only twenty-two years' difference and the best of friends, always have been . . . Dad, very, very close to. He would do anything for me, I would do anything for him. (NO.149, female, married)

Notwithstanding the complex relationship between the provision of care and the carer's health status, the bivariate analysis (Table 2) shows that carers are more likely to be in good health (90 per cent) than non-carers. However, once providing care and working, 30 per cent of those who had reduced their economic activity between the two waves reported poor health (Table 2). This was corroborated by the multivariate analysis, which showed that, holding all other variables at their means, the predicted probability of reducing economic activity between the two waves was 0.15 greater for respondents in poor health, compared to those in good health (Table 3).

The interviews also reflected the importance of health in terms of reducing one's employment, as two out of the four carers who had reduced their economic activity had done so partly because of health problems, as the quote below illustrates:

I've decided to drop a day to go four days a week instead of full time . . . This is mainly because of medical conditions which make it difficult to cope with a full time job, and being a nurse I can't do the chemical stuff any more so—, so I've been doing that. (NO.152, female, divorced)

In addition, going through adverse life events during the caregiving period may also be a trigger for the reduction of the carers' economic activity. For one of the interviewees, a series of adverse events during her lifecourse interacted with her health status to affect her decision not to work:

I–, I hadn’t been well, I mean we–, we’ve had a lot go on with losing [SON2]’s partner, really since my brother passed away it–, it’s just been hard and I’ve had quite a few bouts of like depression, so I–, I had been off work since last April and the thought of going back was just tearing me apart, I just couldn’t–, couldn’t bear the thought of it, and we talked about it and because I was fifty I was able to take my pension. (NO.047, female, married)

Financial issues featured prominently among the factors associated with carers’ reduction of their economic activity. Although the bivariate analysis showed that 42.4 per cent of carers were living ‘comfortably’ (Table 2), nevertheless about one-in-five of carers who had reduced their economic activity between the two waves were in a difficult financial situation (20.2 per cent, Table 2). Along similar lines and holding all other variables at their means, the probability of reducing one’s economic activity among those ‘just getting by’ financially was 0.11 smaller compared to those finding it difficult financially (Table 3). ‘Just about getting by’ may imply that the respondent is facing a financial burden, and being in employment is important in maintaining a certain financial status, thereby reducing rather than stopping one’s economic activity. One of the interviewees (female, divorced) had reduced her work to four-days a week, in spite of caring for her frail mother and having health problems herself, partly because she was ‘a bit tight and [...] a single parent of two teenage boys’.

The type of employment was also shown to be a significant factor associated with the risk of carers reducing their employment between the two waves. The quantitative analysis suggested that being an employee increases one’s risk of reducing one’s employment compared with being self-employed. Among carers with different employment statuses, around 16 per cent of employees had reduced their economic activity between waves compared to 9.3 per cent of self-employed carers (Table 2), while holding all other variables at their means, Table 3 shows that the probability of reducing one’s employment was 0.05 greater among employees (without supervisory responsibilities) compared to those who were self-employed. The interviews revealed self-employment to provide respondents with more flexibility and fewer constraints in terms of arranging their daily life. Two male carers who were self-employed noted:

My work doesn’t–, my work neither prevents me from doing things that I want to do, and it doesn’t drag me into social situations that I don’t want to be in. (NO.182, male, divorced)

I’m self-employed so I generally plan things round my family rather than my job, you know. (NO.208, male, married)

Comparatively, the carers who worked as full-time employees had less freedom, as one such carer (female, married) confided: ‘time is scarce –[working] long hours and not much time to do things’.

Finally, the research highlighted the complexity in terms of the carers’ relationship with their parents, and the carers’ approach to the provision of informal care in mid-life. Perhaps not surprisingly, 58.4 per cent of carers met with their parent frequently (Table 2), and holding all other variables at their means, the probability of carers reducing their economic activity between waves was slightly higher among those who met with their parents frequently compared to those who did not (0.03, Table 3). The interviews reinforced this point, as all working carers who had reduced their employment spent

a lot of time with the person they cared for, regardless of whether they lived together or not. On the one hand, frequently meeting with one's parents can be a result of reducing one's economic activity pattern. On the other hand, frequent meetings with one's parents could suggest closer intergenerational relations and mutual affection, which may contribute to the carers' decision to reduce their employment, as this carer confided:

It's not a chore going round to mum, it's part of my social life... She is my friend, so it's basically she is very, very much part of my everyday life and I don't class it as a chore or work or anything like that... I stopped working three years ago... One, because I'd had enough, and two because Mum needed me more. (NO.149, female, married)

The qualitative analysis also suggested that close intergenerational relations resulted in carers always prioritising their parents' needs, as this quote reflects:

I was-, worked three days, I was part-time and she-, that was to fit in with her needs at that point... (NO.149, female, married)

The qualitative interviews also reflected the carers' approach to the activity of informal care provision in mid-life. Two out of four carers who reduced their employment mentioned being very family-oriented and 'working around the family'. They either 'never wanted to be career women'; or they had realised that being a carer is 'a different type of career':

I would have said I had a career in a management career, yes. But I would say I'm having a different type of career now. I would say what I'm doing now is probably more harder than what I did when I worked, although I do not get recognised for it and I do not get paid for it... Here I am doing a job that other people are doing in a community and, you know, like a home or something but I'm doing it at home so my father doesn't go into a home, but I don't get the same pay or recognition for what I actually do. (NO.187, female, married)

Finally, although the number of hours of care provided by the respondents was not statistically significant in the quantitative analysis, the qualitative analysis suggested that care intensity is related to the carers' decision about their employment. The carers who continued working were not primary carers and did not provide daily personal and instrumental care. For example, the parents of respondents in this group were living in a nursing home, or had a private carer or another relative as their primary carer. In comparison, the carers who had given up their employment altogether were likely to live in the same household as the care recipient, and to provide intensive care, as this respondent explained:

'I look after my father 24/7 which is Monday to Sunday'. (NO.187, female, married)

Discussion

This study set out to examine the interaction between mid-life care provision towards older parents and economic activity using a cohort dataset and a mixed methods approach which places the carers' own perspectives at the heart of the research. The

quantitative analysis highlighted that a small but significant proportion of working carers had reduced their economic activity between waves 8 and 9 (13.8 per cent), and that particular demographic and socio-economic characteristics such as being female and reporting poor health were associated with such reduction in one's economic activity. The qualitative analysis has corroborated and expanded the findings from the statistical analyses, adding an interpretive understanding of survey statistics and complementary insights (Bazeley, 2017), and adding value in terms of enriching our understanding of carers' transitions and perspectives over time (Millar, 2021). The use of a 'weaving' technique in integrating qualitative with quantitative findings allowed for a more robust analysis of the factors associated with carers' decisions about their economic activity (Ivankova et al., 2006).

This study found that carers' decision to reduce economic activity was associated with their demographic and socio-economic characteristics, and influenced by their perceptions of their caring role, and the ways in which different aspects of their life interact (e.g. health status, presence of children, type of employment). The findings lend partial support to the cultural perspective (Tarum and Kutsar, 2018), confirming the gendered norm in caring, with women, although under-represented in the analytical sample of working carers, being more likely to provide intensive care and reduce their economic activity while men being less likely to do so in order to maintain their breadwinning role as a source for men's gender identity (Warren, 2007). The qualitative findings added value to such explanation, suggesting that in addition to norms and obligations, factors indicating (for example) affective solidarity, close intergenerational relationships or frequent contact are crucial in women's decisions around care and employment. Secondly, the findings are to some extent compatible with the care burden approach in that the primary and co-residing carers were more likely to give up their jobs than non-primary and non-co-residing carers (Carmichael et al., 2008; Casado-Marín et al., 2011). The results also highlight the importance of key socioeconomic and demographic characteristics on the part of carers (Arksey and Glendinning, 2008; Meng, 2013; Gomez-Leon et al., 2019). Carers with financial pressure were less likely to stop employment than those without, while those in poor health, who were single/never-married, and childless, faced a higher likelihood of leaving employment than those with good health, married and who had children. A notable exception was that the number of hours of care was not shown to be statistically significant in predicting the reduction of economic activity among working carers between waves 8 and 9. This is surprising given other analysis using this dataset which has shown such a factor to be significant in predicting carers' exit from work (albeit only significant at 10 per cent level), although not predicting the reduction of their employment between ages fifty and fifty-five (Gomez-Leon et al., 2019). A possible explanation for this lack of significance is that in our analysis we tested for the number of hours of care provided by respondents in wave 8 (i.e. before they are 'at risk' of reducing their employment by wave 9), whereas the aforementioned research controlled for the change in the number of hours of care provided between the two waves (i.e. increasing or decreasing number of hours between waves 8 and 9).

The added value of the current study is the in-depth explanation on the pathways of the above effects from the carers' own perspective. For example, the respondent who was a 24/7 and childless carer was 'free' from the economic burden of raising a child and able to take early retirement to better support their parent. This research adds two important perspectives to our understanding of carers' decisions around work and care, relating to

one's identity and life course events (Evandrou *et al.*, 2002; Vlachantoni *et al.* 2013; Tomkins and Eatough, 2014). Family-oriented values and the carer's identity play an important role in employment-related decisions, and carers who experienced adverse life events had a higher risk of stopping work. As there was no information in the quantitative survey on formal support receipt by the carer or care recipient (Gomez-Leon *et al.*, 2019), this study could not provide any evidence in relation to the institutionalist perspective. However, as previous research has already indicated that social policy can affect the carers' decision about care provision and economic activity (Van Groenou and De Boer, 2016; Tarum and Kutsar, 2018), the findings in this study have important implications for future social policy with respect to supporting carers who wish to reconcile work and informal care.

Recent research by Carers UK estimated that there are around 4.87 million carers juggling work and care, and 38 per cent of all interviewed carers reported that they had given up work to care (Carers UK, 2019). Our study directly relates to the latest Carers Action Plan 2018-2020, which encourages carers to engage in paid work alongside their caring role (Strategy and Projects Team, 2018). The findings have suggested several factors which are associated with the reduction of carers' economic activity. More flexible working hours and paid care leave should be considered as usual practice in the workplace as this research showed that self-employed carers with greater flexibility were less likely to encounter work-care conflict. Our findings concerning the negative effect of adverse life events on the carers' employment suggest that the employees who experienced negative life events should be supported by their employers to a greater extent: for instance, through more flexible leave policies or access to free psychological counselling during times of pressure (Marmot Review, 2010). As single never married carers were more likely to reduce their economic activity than those who were married, the former group might be more vulnerable in their own older age because of a lack of financial and family security. Supportive policies such as the provision of care credits may facilitate this group of carers to access formal care in their old age. Similarly, carers with health problems or economic difficulties need more financial support in order to sustain their long-term care contribution. Such arguments are critical in the context of the ongoing debate about the cost-effectiveness of care provided at home (Bowes, 2007).

This research has a number of limitations. Firstly, as the NCDS was not originally designed for this study, there were limits to the available information in the survey, and important factors such as the duration of the caring episode and the characteristics of the care recipients could not be included in the analysis. Secondly, the lack of consistency in the question design between different waves in the NCDS limited our scope to explore other factors, which may be associated with the carers' decisions around work and caregiving. For example, care provision to both parents and grandchildren may influence the carers' decision about employment, but there is no information on grandchild care in wave 8, though such information exists in wave 9 (Evandrou *et al.*, 2018). Thirdly, the self-reported data may present some limitations. For example, the reduction of economic activity among some carers may be due to the combination of other factors: for instance, the carers might relate such reduction to their caregiving as a more socially acceptable reason to stop one's work (Arnold and Feldman, 1981). Fourthly, the grouping of carers who reduced their working hours between the two waves, and carers who stopped working altogether by wave 9, may be masking differences in the decision-making process about changing one's working hours. Examining these two transitions separately is an

important direction of future research in this area, where the cell counts make the analysis possible. Finally, this article focuses on the factors associated with transitions in economic activity among carers between the ages of fifty and fifty-five – however, it is entirely possible that factors earlier in the carer’s lives have also been influential. To some extent, the qualitative interviews reflect on such factors – for example, the presence or lack of children in the family, or the influence of pre-existing medical conditions on the respondents’ decision to stop working. However, such insights from the interviews do not provide a comprehensive picture of earlier life-course influences, and this could be a direction for future analysis with this dataset.

In conclusion, this study is the first, to our knowledge, to combine quantitative and qualitative data from the NCDS in order to investigate the interaction between informal care provision in mid-life and the carers’ economic activity patterns using a mixed-methods approach. As such, the study improves and enriches our understanding of carers’ decisions about their economic activity and adds value to the collection of qualitative and quantitative data through investment by the Economic and Social Research Council (Elliott, 2013). In addition, the study contributes to existing theoretical frameworks of understanding carers’ decisions about caring and working, by incorporating the concepts of value and identity from the carers’ perspective, against the background of a life course approach (Evandrou *et al.*, 2002).

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Notes

1 A research by the Bundesbank conducted between 2010-2011 found that the mean net income was around €23,600 per annum for the tenant households, and €41,200 for the home-owner households. For 2019-20, the Carers’ Allowance is £66.15 per week – however, one of the eligibility criteria is that the carer should not earn more than £123 a week (after deductions) (Gov.uk, 2020).

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