


ARTICLE

# Becoming an informal care-giver: the role of work status incongruence

Shanika Yoshini Koreshi\*  and Fiona Alpass

School of Psychology, Massey University, Palmerston North, New Zealand

\*Corresponding author. Email: [s.yoshini@massey.ac.nz](mailto:s.yoshini@massey.ac.nz)

(Accepted 22 December 2021)

## Abstract

The ageing of the workforce suggests that many older adults will be combining work and care. While there is extensive evidence for the impact of informal care-giving on paid employment, there is less research on how work status may influence the provision of informal care. It has also yet to be established whether work preferences may influence the uptake of care-giving responsibilities, particularly for older workers. We investigated the impact of work status congruence on taking up informal care at two-year follow-up. A sample of 1,211 employed participants aged 55–70 years was surveyed over two consecutive waves. Involuntary part-time workers were more likely to provide care at Time 1 than involuntary full-timers, voluntary part-timers and voluntary full-timers. Participants were more likely to take up care if the opportunity costs of doing so were low, however, only for those whose preferences for more work were not met. There were no moderating effects of gender and economic living standards on the relationship between work status incongruence and provision of care-giving. Understanding the decision-making processes older workers undertake when taking up informal care are complex and must consider the influence of personal work preferences. These findings have implications for care and work-based policy given the importance of informal care in sustaining ageing-in-place policies.

**Keywords:** informal care; labour force participation; work hour preferences; older adults

## Introduction

The extensive literature on care-giving and its relationship to work has found a negative relationship between care-giving responsibilities and paid employment (Berecki-Gisolf *et al.*, 2008; Carmichael *et al.*, 2010; Bauer and Sousa-Poza, 2015; Moussa, 2019). There is less research investigating how work may influence the provision of informal care (He and McHenry, 2016) and even less on the influence of work preferences. Work preferences (*i.e.* the preference for full-time work, part-time work, no work and/or hours of work) are particularly salient for older workers as they approach and transition to workforce exit. At this lifestage, preferences may be constrained by factors such as health, disability, workplace policies and family

© The Author(s), 2022. Published by Cambridge University Press. This is an Open Access article, distributed under the terms of the Creative Commons Attribution licence (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted re-use, distribution and reproduction, provided the original article is properly cited.

responsibilities such as care (Silver *et al.*, 2019). When preferences do not match actual work status, individuals may experience work status incongruence (Holtom *et al.*, 2002). There is evidence that work status incongruence is common (Wooden *et al.*, 2009), difficult to resolve (Clarkberg and Moen, 2001), has implications for both organisational and employee outcomes (Reynolds and Aletraris, 2006, 2010), and hinders workers' ability to reconcile work and family life (Gerson and Jacobs, 2004; Barnett, 2006). There is reason to believe that some individuals who experience work status incongruence may also face work precarity. For instance, involuntary part-time workers (working part-time when one would like to work full-time) are more likely to be female, have more insecure jobs, earn less and are more at risk of being poor (Warren and Lyolette, 2018; Pech *et al.*, 2021). These factors are also independently related to taking up care (Carmichael *et al.*, 2010; Bauer and Sousa-Poza, 2015). Employee work preferences are, therefore, likely to play an important role in explaining the decision to take up care.

As the population ages and life expectancy increases, there is an increasing need for the provision of informal care, usually by family members, for individuals who need support due to long-term illness, disability or frailty (Costa-Font *et al.*, 2015). Many governments are focused on policies of 'ageing in place' in order to reduce the societal expense of providing aged residential care (Schofield *et al.*, 2006). At the same time, in response to the structural ageing of the workforce, there is a policy imperative to extend the working lives of older people (Ní Léime *et al.*, 2017). Within the next two decades, the ageing population in the paid workforce is projected to increase (Statistics New Zealand, 2017; Organisation for Economic Co-operation and Development, 2019), suggesting that older workers will need to reconcile the competing demands of providing unpaid, informal family care and paid work.

## Literature review

### *Work and the provision of informal care*

There is a considerable literature that finds a negative relationship between care-giving and workforce participation in the traditional working-age population. The dominant finding is that workforce participation decreases in response to providing informal care (Bauer and Sousa-Poza, 2015). A small amount of research investigating how work may impact the provision of informal care suggests that paid employment discourages the uptake of care-giving responsibilities. For instance, Carmichael *et al.* (2010) found that employment participation and earnings both impacted negatively on the willingness to undertake informal care that involved longer hours of caring and/or co-residence with the care recipient. Care-givers' choice of taking up care was interpreted as a rational choice because people were more willing to supply care when the opportunity costs of doing so were low. Similarly, Young and Grundy (2008) found intensive care-giving to be significantly associated with previously low levels of employment for men and previous non-employment for women.

Furthermore, evidence suggests that there are gender differences in the relationship between hours in work and care provision. For instance, full-time employment

among females in the previous year reduced the probability of providing care, although working in part-time or self-employed roles did not impact on the decision to provide care (Nguyen and Connolly, 2017). For males, working on any basis (full-time, part-time or self-employment) in the preceding year significantly reduced the probability of providing care as primary care-givers (Nguyen and Connolly, 2017). More recent findings from the Survey of Health, Ageing and Retirement in Europe (SHARE) show that an increase in average weekly work hours reduced the time spent providing care, and this was particularly true of women (Mazzotta *et al.*, 2020). It is noteworthy that these studies predominantly focus on working-aged samples (under the age 60 years) and only account for actual work status (full-time or part-time) and not work preferences.

### **Older workers and work preferences**

Given demographic changes to the population and the workforce there is an expectation that people will continue working until later in their lives (Moen *et al.*, 2017). However, it is also assumed that people who approach traditional retirement age will prefer to work fewer hours (Van Solinge and Henkens, 2014). Several factors have been identified which may determine work preferences for older workers including gender, family situation, financial status, health status and features of the work environment (Gielen, 2009). For example, older workers may need to withdraw from work to prevent ill health that may be exacerbated by continuing work (Pond *et al.*, 2010). Older workers with care-giving obligations may prefer to work fewer hours to accommodate care-giving tasks (Silver *et al.*, 2019).

While less prevalent, some older workers who experience material disadvantage across their lifecourse may prefer more work as they age to support themselves in retirement (McDonald and Donahue, 2011). In addition, some may wish to increase their work hours and earnings to cover costs associated with providing care. For instance, to pay for professional help to assist in care-giving tasks (Silver *et al.*, 2019).

Gender is an important factor to consider in relation to later-career work preferences as it shapes work–life trajectories across the lifecourse (Tomlinson, 2006). Entry into and exit from the paid workforce can be different for women and men because institutional, historical and socio-cultural norms have been much clearer about men's roles in the workforce (Han and Moen, 2001). As populations age, care-givers are increasingly likely to be older women (Lee, 2001). Women are more likely to take up caring roles than men (Alpass *et al.*, 2017), are more likely to provide care for older adults (Calasanti and Slevin, 2001), and there is evidence that older women are more likely to reduce their work hours to do so (Dentinger and Clarkberg, 2002). Men are less likely to reduce hours or exit the workforce due to care-giving (Kröger and Yeandle, 2013; Noone *et al.*, 2018).

Higher levels of financial strain may induce some older workers to hold preferences to work more hours at later career stages (Reynolds and Aletraris, 2006; Lusardi and Mitchell, 2011; Ogums, 2012). Moreover, women, due to disrupted work histories compared to men, are more likely to be in lower-status jobs, earn less and have fewer retirement savings (Keddy *et al.*, 1993; Feng *et al.*, 2019;

Gonçalves *et al.*, 2021), suggesting increased probability of preferring (or needing) to work for longer.

In sum, there is a considerable literature on the negative relationship between care-giving and workforce participation. The few studies investigating how work may impact the provision of informal care suggests that paid employment discourages the uptake of care-giving responsibilities, although this may vary by gender and work status. Work preferences for older workers are a function of several factors including gender and economic status.

### **When preferences are not met – work status incongruence**

Traditional models of labour supply suggest individuals freely choose their work hours to maximise their personal utility. Actual hours worked are thus considered a direct reflection of work preferences and any work status incongruence is temporary. However, there is growing evidence that work status incongruence is common and long-lasting (Wooden *et al.*, 2009; Reynolds and McKinzie, 2019). Mismatch between actual and preferred work hours and schedules are hard to resolve, particularly for those who prefer reduced hours (Clarkberg and Moen, 2001; Reynolds and Aletraris, 2006). Work status incongruence also has implications for organisational and employee outcomes. Employees with congruent work schedules (both full-time and part-time) report greater job satisfaction compared to employees with incongruent work schedules (Cameron *et al.*, 1994). The overemployed report higher job dissatisfaction and high turnover intentions, while the underemployed report concerns about job insecurity (Cameron *et al.*, 1994). Mismatches also reduce worker wellbeing with both over- and underemployed workers more likely to report depression than workers with congruent work schedules (Kim *et al.*, 2021). Importantly, work hour mismatches can hinder workers' ability to reconcile work and family life (Gerson and Jacobs, 2004). For instance, Piszczek *et al.* (2021) showed that work schedule misfit predicted work-to-family conflict, and Brauner *et al.* (2020) found that satisfaction with work–life balance was lower for those who worked more than their preferred hours. Thus, work status incongruence may also lead to problems in managing one's personal life (Barnett, 2006), including the decision to take up care.

### **Research framework**

Rational choice theory assumes that individuals choose a course of action that is most in line with their personal preferences. The decision to take up care-giving reflects individuals' cost–benefit calculations linked to emotional and financial costs and benefits of providing care (Brouwer *et al.*, 2005) and, consequently, may be considered a rational choice. In support of this perspective, Carmichael *et al.* (2010) note that individuals in full-time employment and higher earners are less likely to take on intensive care-giving responsibilities. In addition, individuals with poor employment opportunities or low attachment to the labour force may 'self-select' into the care-giving role (Dautzenberg *et al.*, 2000; Carmichael *et al.*, 2010). Thus, research has focused primarily on the difference in opportunity costs between part-time and full-time workers. Workers are assumed to be less likely to take on care-giving responsibilities the higher their opportunity costs of

care-giving. These costs will be lower for individuals who are in low-paid, part-time or no paid employment, and higher for high earners in full-time employment (Carmichael *et al.*, 2010). Rational choice theory may also be extended to understand how work status incongruence influences the decision to take on care-giving responsibilities. For instance, those who want to work more will have higher opportunity costs than those who want to work less and will be thus less likely to take up care.

An individual's preferences and options will inevitably be limited by their own capacities and resources. A perceived lack of choice may result in people becoming carers because they feel emotionally or morally obligated when a family member becomes ill (Brouwer *et al.*, 2005), and this may be particularly salient for women. Gender theories highlight the cultural and emotional demands on women to take up care. Care-giving is seen to be culturally appropriate to women and this has reinforced the expectation that women's major role is to provide care to dependants in the home (Zygouri *et al.*, 2021). As noted above, there is reason to believe that the gendered division of care-giving and women's work histories may also predispose them to take up care due to the effects of poorer lifetime employment opportunities. Part-time work is highly gendered, often of poor quality and offering low wages (Warren and Lyonette, 2018), and this is particularly true of older women (Van der Horst *et al.*, 2017). Accordingly, both gender and socio-economic status are important factors to consider when examining the role of work preferences on care-giving decisions.

### **Research gaps and context of the study**

While there is an extensive literature on the impact of care-giving responsibilities on employment and work, there is limited research on the impact of employment on the decision to take up care. Moreover, the role of work preferences and work status congruence in this decision has not been previously addressed, making it difficult to draw inferences regarding decisions to withdraw from the labour force or to choose part-time employment in response to informal care-giving. The direct effects of work status congruence on willingness to care may imply a conflict between policies promoting greater labour force participation for older workers and social welfare policies that continue to rely on family carers for support in the community. A better understanding of factors that influence individual trade-offs between employment and care-giving is needed. The aim of the present study is to examine whether work status incongruence predicts uptake of informal care-giving among a representative sample of older working New Zealanders at two-year follow-up, and whether it adds to our understanding of the decision to provide informal care over and above that provided by work status alone. More specifically we propose, based on rational choice theory, that older workers will be less likely to take on care-giving responsibilities the higher their opportunity costs of care-giving. Thus:

- Hypothesis 1: Underemployed workers (involuntary part-time) will be less likely to take up care-giving responsibilities than overemployed workers (involuntary full-time).
- Hypothesis 2: Voluntary full-time workers will be less likely to take up care-giving responsibilities than voluntary part-time workers.

Given the gendered nature of care-giving discussed above and the potential impact of financial strain on work preferences, we propose:

- Hypothesis 3: Underemployed women will be more likely to take up care-giving responsibilities than underemployed men.
- Hypothesis 4: Underemployed workers in economic hardship will be less likely to take up care-giving responsibilities than underemployed workers not in economic hardship.

## Methods

### Design

The current study involves a secondary data analysis utilising pre-existing data gathered by the Massey University Health and Ageing Research Team (HART). The sample was drawn from the longitudinal Health, Work and Retirement (HWR) study established in 2006. This is a population-level study which aims to identify the health, economic and social factors underpinning successful ageing for people aged 55 years and over living in New Zealand. Participants are randomly selected from the New Zealand electoral roll, oversampling for persons indicating Māori descent to ensure adequate representation. A postal survey is carried out biennially with participants receiving a questionnaire along with a free-post return envelope. The survey includes questions pertaining to health and wellbeing, work and retirement, social support and participation, income and financial wellbeing, and demographics. More information on the study and its methodology can be found in Allen *et al.* (2019).

### Sample

Participants who responded to Wave 5 (2012), Wave 6 (2014), Wave 7 (2016) and Wave 8 (2018) were included in the present study. Earlier data waves were not included as the wording of the HWR survey question on care-giving changed from 2012 and is not comparable to previous years. A total of  $N = 2,977$  returned completed surveys in 2012,  $N = 2,035$  in 2014,  $N = 4,028$  in 2016 and  $N = 3,964$  in 2018. Participants were included if they completed two consecutive surveys in order to analyse data at a two-year follow-up ( $N = 2,458$ ). The final sample included those aged 55–70 years of age, in paid employment and who reported as non-care-givers at baseline. Participants aged over 70 years were not included in the final sample due to overall levels of workforce participation in this age group. Furthermore, the present sample was restricted to non-retirees to control for any effect of post-retirement work on care-giving uptake. The final sample comprised  $N = 1,211$ , of whom 211 reported taking up care-giving at two-year follow-up.

### Measures

#### *Socio-demographic variables*

Gender (females = 1, males = 0), age, education (no qualification = 1, secondary school qualification = 2, post-secondary certificate, diploma or trade diploma = 3, university degree = 4), marital status (married/partnered = 1, single = 2) and occupation

(professional = 1, non-professional = 2) were measured. Socio-economic status was measured using the Economic Living Standards Index (Jensen *et al.*, 2005). This 25-item scale measures participants' financial and economic wellbeing. It is a non-monetary indicator of socio-economic status in New Zealand that measures restrictions in social participation, restrictions in ownership of assets, economising behaviour and self-reported standard of living. A total score can be derived by summing all the items, with a range of 0–31. Scores can be used to categorise participants to ordinal groups ranging from severe hardship to very good economic living standards.

### *Health variables*

The SF-12v2 Health Survey is a 12-item self-report measure assessing functional health and wellbeing in eight domains. Physical health-related domains include General Health, Physical Functioning, Role Physical and Body Pain. Mental health domains include Vitality, Social Functioning, Role Emotional and Mental Health. Physical and mental health component scores were calculated utilising normative subscales for the New Zealand population derived from the 2008 New Zealand General Social Survey and factor score coefficients derived from the 2006–2007 New Zealand Health Survey (Frieling *et al.*, 2013). Higher scores in each domain indicate better health-related quality of life.

### *Care-giving status*

Participants were asked whether they had provided care for someone with a long-term illness, disability, or frailty for at least three hours a week within the last 12 months. Based on the responses, care-giver status was coded as 1 = care-givers and 0 = non-care-givers.

### *Current work status*

Participants were asked to best describe their current work status. Their responses were categorised as 0 = full-time and 1 = part-time.

### *Work status incongruence/preference*

A discrepancy between a participant's preferred work status and current work status was used to categorise work status incongruence/preference. Participants were asked to best describe their preferred work status and current work status. Participants who worked part-time and indicated they preferred to work more were categorised as 1 = involuntary part-timers, participants who worked full-time and indicated they preferred to work less were categorised as 2 = involuntary full-timers, participants who worked part-time and whose preferred work status was also part-time were categorised as 3 = voluntary part-timers, and participants who worked full-time whose preferred work status was also full-time were categorised as 4 = voluntary full-timers.

### *Employment type*

Participant's current work status was used to categorise responses to either 1 = self-employed or 0 = employed.

### Data analytic plan

Statistical analyses were performed using SPSS version 27. Univariate analyses were conducted to test differences between care-givers and non-care-givers on demographic characteristics. Where values were missing, listwise deletion was used for all analyses. Binary logistic regression analysis was carried out in order to ascertain which Time 1 (T1) variables contributed to taking up care-giving at T2. The dichotomous dependent variable was 'care-giving status' (yes = 1, no = 0). Nagelkerke's  $R^2$  was used to indicate the amount of variation in the dependent variable explained by the full model. The significance of potential predictors was measured using Wald's coefficient ( $\alpha = 0.05$ ). Multiple binary logistic regression analyses were conducted to explore the interactive effects of gender and economic living standing on the association of work status congruence and informal care-giving uptake. All interactive effects were considered significant at  $p < 0.10$ .

### Results

Of the 1,211 non-care-giver participants in the final sample at baseline, 211 (17.4%) reported being care-givers at the consecutive wave. Univariate comparisons indicated there was no difference in age, socio-economic status, occupation, marital status, education, employment type, physical health and mental health between future care-givers and non-care-givers (see Table 1). However, significant differences emerged on gender, work status preferences and current employment status (full-time *versus* part-time). Future care-givers were mostly females and were in part-time employment compared to non-care-givers who were mostly males (small effect size Cohen's  $d = 0.12$ ). The majority of the future care-givers were in part-time employment compared to non-care-givers who were mostly in full-time employment (small effect size Cohen's  $d = 0.16$ ).

Participants who identified as care-givers in the following wave had more incongruent work status than participants who remained as non-care-givers throughout the two waves. The current work status and preferred work status were congruent for 66.6 per cent of the non-care-givers. However, nearly half of the future care-giver sample experienced disparities between their current work status and preferred work status. Moreover, 40.1 per cent of the non-care-giver sample were in voluntary full-time employment whereas only 24.4 per cent of the future care-giver sample were employed in voluntary full-time employment. There were more underemployed participants in the future care-giver group than the non-care-giver group. It is noteworthy that despite 51.1 per cent of the future care-giver sample being in part-time employment, only 25.9 per cent reported they were in voluntary part-time work.

Binary logistic regressions were performed to ascertain the effects of T0 work status preferences and control variables on care-giving status at T1. Linearity of the continuous variables with respect to the logit of the dependent variable was assessed via the Box-Tidwell procedure (Box and Tidwell, 1962). Based on this assessment, all continuous variables were found to be linearly related to the logit of the dependent variable. An inspection of correlation coefficients and tolerance/variance inflation factor values indicated that multicollinearity was not a concern. Binary logistic regression models predicting care-giving at T1 from work status incongruence (predictor variable) and control variables at T0 are presented in Table 2.

**Table 1.** Descriptive data for characteristics of care-givers and non-care-givers

	Care-givers	Non-care-givers	<i>p</i>
N	201	916	
Predictor variable:			
Work status preference:	N = 201	N = 916	
Involuntary part-time	25.4	4.8	$\chi^2$ (3) = 93.9*, Cramer's <i>V</i> = 0.29
Involuntary full-time	24.4	28.6	
Voluntary part-time	25.9	26.5	
Voluntary full-time	24.4	40.1	
Control variables:			
Age:	N = 201	N = 916	
55–70	61.3 (3.91)	61.8 (4.03)	<i>t</i> (1,115) = 1.91
Gender:	N = 201	N = 911	
Male	38.8	54.1	$\chi^2$ (1) = 15.45**, Cramer's <i>V</i> = 0.12
Female	61.2	45.9	
Marital status:	N = 200	N = 901	
Married or <i>de facto</i>	81.5	80.9	$\chi^2$ (1) = 0.03
Not married or <i>de facto</i>	18.5	19.1	
Economic living standards:	N = 196	N = 895	$\chi^2$ (2) = 4.51
Good	67.9	75.2	
Comfortable	25.0	19.1	
Hardship	7.1	5.7	

(Continued)

**Table 1.** (Continued.)

	Care-givers	Non-care-givers	<i>p</i>
Ethnicity:	N = 201	N = 901	
Non-Māori	76.2	78.1	$\chi^2$ (1) = 0.384
Māori	23.8	21.9	
Education:	N = 200	N = 900	
No qualification	11.0	11.1	$\chi^2$ (3) = 5.57
Secondary school	19.5	22.0	
Post-secondary/trade	32.0	37.7	
Tertiary	37.5	29.2	
Occupation:	N = 189	N = 901	
Professional	38.1	33.3	$\chi^2$ (1) = 1.60
Non-professional	61.9	66.7	
Health:	N = 161	N = 884	
Physical health	49.7 (8.35)	50.6 (7.45)	<i>t</i> (961) = 1.20
Mental health	50.8 (8.18)	51.4 (8.27)	<i>t</i> (961) = 0.87
Employment status:	N = 201	N = 915	
Part-time	51.2	31.3	$\chi^2$ (1) = 28.9**, Cramer's <i>V</i> = 0.16
Full-time	48.8	68.7	
Employment type:	N = 201	N = 916	
Self-employed	19.4	21.1	$\chi^2$ (1) = 0.28
Non-self-employed	80.6	78.9	

Notes : N = 1,177. Values are percentages or means with standard deviations in parentheses.  
Significance levels: \* *p* < 0.05, \*\* *p* < 0.01.

**Table 2.** Odds ratios and 95 per cent confidence intervals (95% CI) for logistic regression models predicting taking up care in Wave 2

	Model 1	Model 2	Model 2	Model 4
<i>Odds ratios (95% CI)</i>				
Work variables:				
Work status preference (Ref. Voluntary full-time):				
Involuntary part-time	2.16 (5.26–9.19)**	2.17 (5.3–12.3)**	2.27 (5.4,13.7)**	2.16 (4.7–14.8)**
Involuntary full-time	0.34 (0.91–2.15)	0.33 (0.9–2.1)	0.57 (1.1–2.9)	0.42 (0.92–2.52)
Voluntary part-time	0.47 (1.05–2.45)*	0.48 (1.1–2.5)*	0.47 (0.9–2.6)	0.29 (0.79–2.3)
Employment type (Ref. Non-self-employed)		0.14 (0.8–1.7)	–0.08 (0.6–1.4)	–0.13 (0.56–1.4)
Health variables:				
Physical health score (Time 0)	–		–0.01 (0.97–1.01)	–0.007(0.97–1.02)
Mental health score (Time 0)	–		0.03 (0.98–1.03)	0.01 (0.99–1.03)
Socio-demographic variables:				
Gender (Ref. Male):				
Female	–		–	0.58 (0.38–0.84)**
Age 55–70 at Time 1	–		–	–0.005 (0.95–1.04)
Economic living standards (Ref. Good):				
Hardship	–		–	–0.13 (0.38–2.02)
Comfortable	–		–	0.30 (0.86–2.12)
Adjusted R <sup>2</sup>	0.106	0.106	0.111	0.131

Notes: N = 1,177. Ref.: reference category.

Significance levels: \*  $p < 0.05$ , \*\*  $p < 0.01$ .

Four models were undertaken to assess the effects of work status incongruence on the decision of taking up informal care-giving. The first is an unadjusted model followed by models adjusted for employment type, health variables and demographics, respectively. A combination of the Omnibus tests of model coefficients and the Hosmer and Lemeshow goodness-of-fit test indicated that all four models were significant and fit the data well. The logistic regression Model 1 was statistically significant,  $\chi^2(3) = 6.67, p < 0.005$  and explained 10.6 per cent (Nagelkerke  $R^2$ ) of the variance in taking up care-giving, correctly classifying 82.6 per cent of cases. Of the predictor variables, two were statistically significant: involuntary part-time and voluntary part-time (as shown in Table 2). Involuntary part-time participants had 2.16 higher odds of taking up care-giving than participants who were involuntary full-time, voluntary part-time or voluntary full-time. Voluntary part-timers had 0.47 lower odds of taking up care-giving than participants who were involuntary full-time or voluntary full-time. The addition of employment type in Model 2 did not alter these associations. However, when mental health and physical health variables were added (Model 3), voluntary part-time employment no longer remained a significant predictor of taking up care-giving. Involuntary part-time remained a significant predictor of care-giving throughout all the models. Employment type (self-employed or employed), health (physical and mental) and socio-demographic variables (age and socio-economic status) at T0 were not significant factors in determining who became a care-giver at T1. However, females were significantly more likely to become care-givers at T1 (Model 4).

The interaction between gender (female and male) and work status incongruence (involuntary part-time, involuntary full-time, voluntary part-time and voluntary full-time) was not significant ( $B = 0.99$ , 95% confidence interval (CI) = 0.11–1.26,  $p = 0.37$ ;  $B = 0.26$ , 95% CI = 0.28–2.11,  $p = 0.77$ ;  $B = 0.91$ , 95% CI = 0.38–3.1,  $p = 0.86$ ). The findings indicate that gender did not moderate the influence of work status incongruence on providing care-giving.

The interaction between economic living standards (hardship, comfortable and good) and work status incongruence (involuntary part-time, involuntary full-time, voluntary part-time and voluntary full-time) was not significant ( $B = -1.51$ , 95% CI = 0.03–1.62,  $p = 0.14$ ;  $B = -0.11$ , 95% CI = 0.10–7.6,  $p = 0.92$ ;  $B = -1.11$ , 95% CI = 0.23–4.7,  $p = 0.42$ ;  $B = -0.57$ , 95% CI = 0.14–2.29,  $p = 0.43$ ;  $B = -0.35$ , 95% CI = 0.22–2.24,  $p = 0.55$ ;  $B = -0.36$ , 95% CI = 0.20–2.43,  $p = 0.57$ ). The findings indicate that economic living standards did not moderate the influence of work status incongruence on providing care-giving.

## Discussion

This study examined the predictors of taking up informal care-giving among older working New Zealand adults at two-year follow-up. The findings indicate that socio-demographic characteristics, perceived health and work status were not significant predictors of taking up informal care-giving. However, work status incongruence, namely involuntary part-time employment, was a significant predictor and remained a predictor when controlling for all other variables.

This paper contributes to the literature on workforce participation and informal care-giving, during a period where older adults are increasingly combining informal

care-giving responsibilities and paid work. Our study takes a longitudinal approach in examining how mismatches between actual and preferred work status relate to taking up care-giving over time. This contrasts with limited previous work that has focused on current work status (part-time or full-time) (Carmichael *et al.*, 2010; He and McHenry, 2016) which effectively treats these employment types as homogenous groups. Our approach takes into account the role of work preferences and work status incongruence in the care-giver decision-making process.

Much of the past literature on informal care-giving and work are predominantly situated within economic theory. Notably, Carmichael *et al.* (2010) explained the decision to take up care-giving as a rational choice where people with lower opportunity costs take up care-giving, however, this implies a preference for working less and a desire to utilise time elsewhere. We hypothesised that involuntary part-time workers would have higher opportunity costs and would therefore be *less* likely to take up care-giving responsibilities compared to those with lower opportunity costs (involuntary full-time workers). However, in our study those in involuntary part-time employment were *more* likely to take up care-giving at follow-up compared to all other work groups. This relationship remained when adjusting for all other variables. As noted earlier, work status incongruence is difficult to resolve (Clarkberg and Moen, 2001) and Reynolds and Aletraris (2010) argue that work mismatches may be resolved by changes in living and work conditions that alter the appetite for work. Older adults in involuntary part-time work arrangements may become discouraged over time when their work preferences are not met, and they may be prompted into involuntary retirement through taking up care (Van Solinge and Henkens, 2008). Previous research has found that older workers feel pushed out of the workforce when workplaces fail to accommodate work hour preferences (Moen *et al.*, 2017).

For some underemployed participants, the payment for family carers may act as an extrinsic motivator to leave work to take up care-giving. Under New Zealand's Resident Family Care system, paid family carers may include partners and spouses of disabled people who have been assessed as having high or very high support needs (Ministry of Health, 2020). This scheme has strict eligibility criteria and applies to relatively few New Zealanders. As the scheme has only been in existence since 2020, future research will be needed to examine the influence the new scheme has on working care-givers.

Finally, older adults who prefer more work but are unable to acquire it may take up care-giving to stay occupied, as they are intrinsically motivated to fulfil their desire for work (paid or unpaid) (Karim *et al.*, 2019). Future research that focuses on the motivations for older workers to take up care-giving may help determine the factors that drive this decision-making process.

Rational choice theory would suggest that full-time workers will be less likely to take on intensive care-giving responsibilities (Carmichael *et al.*, 2010) than part-time workers due to higher opportunity costs. Previous studies have found that working more hours per week reduces the probability of providing care (He and McHenry, 2016; Mazotta, 2020), as do higher earnings and greater employment participation (Carmichael *et al.*, 2010). Our hypothesis that voluntary full-time workers would be less likely to take up care-giving than voluntary part-timer workers was not supported in the present study. This finding suggests that regardless of

whether the preference is for full-time or part-time work, if these preferences are met, the likelihood of taking up care is similar. This highlights the importance of work status incongruence when considering the role of opportunity costs in the care-giving decision-making process for full-time and part-time workers.

Our results show that older female workers were more likely to take up care-giving compared to men. This is a consistent finding in the literature at all stages of the lifecourse. Women are more likely to take up caring roles, are more likely to provide care for older adults and care-giving is more likely to impact their work status than men (Calasanti and Slevin, 2001; Dentinger and Clarkberg, 2002; Kröger and Yeandle, 2013; Alpass *et al.*, 2017). The expectation that older women will take on care-giver roles is well established within the framework of gender socialisation (Brewer, 2001). Poorer lifetime employment opportunities, including poor-quality, low-paid, often part-time work (Warren and Lyonette, 2018), increase the likelihood that women will take up family care-giving responsibilities.

Our findings indicate that age, socio-economic status and perceived health were not significant predictors of taking up informal care-giving. The age range in the current study was constrained (range 55–70) to include only those older participants still in employment at baseline. It is possible that older workers (70+ years) may be more likely to leave work to take up care given their proximity to retirement.

The lack of an association between socio-economic status and taking up care is surprising given the finding that involuntary part-time workers were more likely to take up care. Although these are the participants who report they would prefer to be working full-time, we do not know whether this is due to economic pressures or to intrinsic motivations to make a meaningful contribution by remaining in employment. One possible influence on the decision to forgo employment to take up care is the nature of the New Zealand pension scheme. All older workers above the age of 65 years in New Zealand, irrespective of work history, are eligible for a full universal state pension that is not means or asset tested. This may reduce the financial costs for those workers with care-giving responsibilities who are nearing pension eligibility.

Health status may also determine care-giver status (Berecki-Gisolf *et al.*, 2008). For instance, only healthy family members may be able to undertake the physical demands of care-giving – the ‘healthy care-giver effect’ (Bertrand *et al.*, 2012). Conversely, those in poorer health may have fewer employment opportunities and thus may be more likely to be available to provide care (Coe and Van Houtven, 2009). However, physical and mental health were unrelated to taking up care in the current study. As a community-based cohort, our participants were in relatively good health and comparatively young at baseline (55–70 years). Consequently, our data may not capture the full effects of health on the decision to take up care-giving.

The hypotheses that gender and economic living standards would moderate the relationship between work status incongruence and providing care were not supported.

### Limitations and strengths

There are several limitations to the present study. We followed participants across only two years. Assessing work status preferences at multiple intervals over time would provide greater potential for examining changes in preferences and their

impact on care-giving decisions. In addition, postal surveys, as are used in the HWR longitudinal study, make it difficult to measure the complex nature of work status preferences. In-depth data collection techniques such as lifecourse histories and face-to-face interviews may provide a deeper understanding of work status preference transitions and their impact on informal care-giving. Care-giving status was measured dichotomously (yes or no) and care-giving characteristics (intensity and duration) were not considered. These factors may play a significant role in whether individuals are able to undertake care-giving tasks.

Despite these limitations, the study has several strengths. Our study incorporated multiple data waves from the HWR study allowing for longitudinal examinations. This analysis used a nationally representative sample of older working adults. Most of the research evidence on the impact of employment on care-giving has predominantly utilised younger working samples. Finally, past research that has examined employment influences on taking up care-giving have paid little attention to understanding personal work preferences. To the authors' knowledge, this is the first publication that investigates work status incongruence and care-giving with an older adult sample.

Future research should also examine work-related factors such as organisational culture, training climate and access to flexible work arrangements to understand why older care-givers cannot achieve the work status they prefer. Studies comparing work preferences between older and younger workers might shed more light on barriers to work experienced by older individuals.

## Conclusion

The findings from the present study make two distinct contributions. First, the study supports the need to explore the bidirectional causation between employment and care-giving. Not only do we need to understand how taking up care-giving impacts employment, but we also need to know how work arrangements and work attachments influence the desire and ability to take up care-giving. Second, our findings challenge the notion that individuals who take up care-giving are those with the time (willing part-time workers) to make accommodations (Heger and Korfhage, 2020). Given the structural ageing of the workforce and policies implemented to extend the working lives of older people (Davey, 2006), the present findings may pose challenges. If older workers are taking up care-giving despite wanting more work, it could impose threats to the labour force and individuals' financial security. A reduction in work hours in the years leading up to traditional retirement age can impact post-retirement quality of life (Swain *et al.*, 2020).

Policies and support systems that attempt to reconcile work and care-giving responsibilities need to account for the role of work preferences. It is also imperative to consider ongoing socio-demographic changes in the workforce, for instance, the current global pandemic and its impact on the rate of involuntary part-time work among older adults.

**Financial support.** This work was supported by the Ministry of Business, Innovation and Employment, New Zealand (MAUX1403, MAUX1705).

**Conflict of interest.** The authors declare no conflicts of interest.

**Ethical standards.** Ethical approval was granted for the Health, Work and Retirement study by the Massey University Human Ethics Committee: Southern A Application 18/34. The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

## References

- Allen J, Alpass FM and Stephens CV (2019) New Zealand health, work and retirement longitudinal study. In Gu D and Dupre M (eds), *Encyclopedia of Gerontology and Population Aging*. Cham, Switzerland: Springer International Publishing, pp. 1–7.
- Alpass F, Keeling S, Allen J, Stevenson B and Stephens C (2017) Reconciling work and caregiving responsibilities among older workers in New Zealand. *Journal of Cross-cultural Gerontology* **32**, 323–337.
- Barnett R (2006) Relationship of the number and distribution of work hours to health and quality-of-life (QOL) outcomes. In Perrewé PL and Ganster DC (eds), *Employee Health, Coping and Methodologies. Research in Occupational Stress and Well Being*. Bingley, UK: Emerald Group Publishing, pp. 99–138.
- Bauer JM and Sousa-Poza A (2015) Impacts of informal caregiving on caregiver employment, health, and family. *Journal of Population Ageing* **8**, 113–145.
- Berecki-Gisolf J, Lucke J, Hockey R and Dobson A (2008) Transitions into informal caregiving and out of paid employment of women in their 50s. *Social Science & Medicine* **67**, 122–127.
- Bertrand RM, Saczynski JS, Mezzacappa C, Hulse M, Ensrud K and Fredman K (2012) Caregiving and cognitive function in older women: evidence for the health caregiver hypothesis. *Journal of Aging and Health* **24**, 48–66.
- Box GE and Tidwell PW (1962) Transformation of the independent variables. *Technometrics* **4**, 531–550.
- Brauner C, Wöhrmann AM and Michel A (2020) Congruence is not everything: a response surface analysis on the role of fit between actual and preferred working time arrangements for work–life balance. *Chronobiology International* **37**, 1287–1298.
- Brewer L (2001) Gender socialization and the cultural construction of elder caregivers. *Journal of Aging Studies* **15**, 217–235.
- Brouwer WB, van Exel NJA, van den Berg B, van den Bos GA and Koopmanschap MA (2005) Process utility from providing informal care: the benefit of caring. *Health Policy* **74**, 85–99.
- Calasanti TM and Slevin KF (2001) *Gender, Social Inequalities, and Ageing*. Walnut Creek, CA: Altamira Press.
- Cameron SJ, Horsburgh ME and Armstrong-Stassen M (1994) Job satisfaction, propensity to leave and burnout in RNs and RNAs: a multivariate perspective. *Canadian Journal of Nursing Administration* **7**, 43–64.
- Carmichael F, Charles S and Hulme C (2010) Who will care? Employment participation and willingness to supply informal care. *Journal of Health Economics* **29**, 182–190.
- Clarkberg M and Moen P (2001) Understanding the time-squeeze: married couples' preferred and actual work-hour strategies. *American Behavioral Scientist* **44**, 1115–1136.
- Coe NB and Van Houtven CH (2009) Caring for mom and neglecting yourself? The health effects of caring for an elderly parent. *Health Economics* **18**, 991–1010.
- Costa-Font J, Courbage C and Swartz K (2015) Financing long-term care: ex ante, ex post or both? *Health Economics* **24**, 45–57.
- Dautzenberg MG, Diederiks JP, Philipsen H, Stevens FC, Tan FE and Vernooij-Dassen MJ (2000) The competing demands of paid work and parent care: middle-aged daughters providing assistance to elderly parents. *Research on Aging* **22**, 165–187.
- Davey J (2006) The labour market. In Boston J and Davey JA (eds), *Implications of Population Ageing: Opportunities and Risks*. Wellington: Institute of Policy Studies, Victoria University, pp. 189–220.
- Dentinger E and Clarkberg M (2002) Informal caregiving and retirement timing among men and women: gender and caregiving relationships in late midlife. *Journal of Family Issues* **23**, 857–879.
- Feng J, Gerrans P, Moulang C, Whiteside N and Strydom M (2019) Why women have lower retirement savings: the Australian case. *Feminist Economics* **25**, 145–173.
- Frieling MA, Davis WR and Chiang G (2013) The SF-36v2 and SF-12v2 health surveys in New Zealand: norms, scoring coefficients and cross-country comparisons. *Australian and New Zealand Journal of Public Health* **37**, 24–31.

- Gerson K and Jacobs JA** (2004) *The Time Divide: Work, Family, and Gender Inequality*. Cambridge, MA: Harvard University Press.
- Gielen AC** (2009) Working hours flexibility and older workers' labor supply. *Oxford Economic Papers* **61**, 240–274.
- Gonçalves VN, Ponchio MC and Basílio RG** (2021) Women's financial well-being: a systematic literature review and directions for future research. *International Journal of Consumer Studies* **45**, 824–843.
- Han SK and Moen P** (2001) Coupled careers: pathways through work and marriage in the United States. In Blossfeld HP and Drobnic S (eds), *Careers of Couples in Contemporary Societies: From Male Breadwinner to Dual Earner Families*. Oxford: Oxford University Press, pp. 201–231.
- He D and McHenry P** (2016) Does formal employment reduce informal caregiving? *Health Economics* **25**, 829–843.
- Heger D and Korfhage T** (2020) Short- and medium-term effects of informal eldercare on labor market outcomes. *Feminist Economics* **26**, 205–227.
- Holtom BC, Lee TW and Tidd ST** (2002) The relationship between work status congruence and work-related attitudes and behaviors. *Journal of Applied Psychology* **87**, 903–915.
- Jensen J, Spittal M and Krishnan V** (2005) *ELSI Short Form: User Manual for a Direct Measure of Living Standards*. Wellington: Ministry of Social Development.
- Karim N, Haron H, Abdullah N, Adnan WAW and Mustafa SMS** (2019) Intrinsic motivations for productive ageing. *Indonesian Journal of Electrical Engineering and Computer Science* **13**, 1228–1236.
- Keddy B, Cable B, Quinn S and Melanson J** (1993) Interrupted work histories: retired women telling their stories. *Health Care for Women International* **14**, 437–446.
- Kim S, Jeong W, Jang SI, Park EC and Park S** (2021) Is work hour mismatch associated with depression? *Safety and Health at Work* **12**, 96–101.
- Kröger T and Yeandle S** (2013) Reconciling work and care: an international analysis. In Kröger T and Yeandle S (eds), *Combining Paid Work and Family Care. Policies and Experiences in International Perspective*. Bristol, UK: Policy Press, pp. 3–22.
- Lee C** (2001) Experiences of family caregiving among older Australian women. *Journal of Health Psychology* **6**, 393–404.
- Ní Léime Á, Loretto W, Street D, Vickerstaff S and Krekula C** (2017) Gender perspectives on extended working life policies. In Ní Léime Á, Street D, Vickerstaff S, Krekula C and Loretto W (eds), *Gender, Ageing and Extended Working Life: Cross-national Perspectives*. Bristol, UK: Policy Press, pp. 53–75.
- Lusardi A and Mitchell OS** (2011) Financial literacy around the world: an overview. *Journal of Pension Economics* **10**, 497–508.
- Mazzotta F, Bettio F and Zigante V** (2020) Eldercare hours, work hours and perceived filial obligations. *Applied Economics* **52**, 2219–2238.
- McDonald L and Donahue P** (2011) Retirement lost? *Canadian Journal on Ageing/La Revue canadienne du vieillissement* **30**, 401–422.
- Ministry of Health** (2020) *Funded Family Care*. Wellington: Ministry of Health. Available at <https://www.health.govt.nz/your-health/services-and-support/disability-services/types-disability-support/funded-family-care>.
- Moen P, Kojola E and Schaefer K** (2017) Organizational change around an older workforce. *The Gerontologist* **57**, 847–856.
- Moussa MM** (2019) The relationship between elder care-giving and labour force participation in the context of policies addressing population ageing: a review of empirical studies published between 2006 and 2016. *Ageing & Society* **39**, 1281–1310.
- Nguyen HT and Connelly LB** (2017) The dynamics of informal care provision in an Australian household panel survey: previous work characteristics and future care provision. *Economic Record* **93**, 395–419.
- Noone J, Knox A, O'Loughlin K, McNamara M, Bohle P and Mackey M** (2018) An analysis of factors associated with older workers' employment participation and preferences in Australia. *Frontiers in Psychology* **9**, 2524.
- Ogums RU** (2012) Living and working in retirement, a new paradigm in the US exploring retirees attitudes and beliefs toward working. *Journal of Economic and Social Studies* **2**, 21–50.
- Organisation for Economic Co-operation and Development** (2019) *OECD Employment Outlook 2019: The Future of Work*. Paris: OECD Publishing.

- Pech C, Klainot-Hess E and Norris D** (2021) Part-time by gender, not choice: the gender gap in involuntary part-time work. *Sociological Perspectives* **64**, 280–300.
- Piszczek MM, Martin JE, Pimputkar AS and Lauhié L** (2021) What does schedule fit add to work–family research? The incremental effect of schedule fit on work–family conflict, schedule satisfaction, and turnover intentions. *Journal of Occupational and Organizational Psychology* **94**, 866–889.
- Pond R, Stephens C and Alpass F** (2010) How health affects retirement decisions: three pathways taken by middle-older aged New Zealanders. *Ageing & Society* **30**, 527–545.
- Reynolds J and Aletraris L** (2006) Pursuing preferences: the creation and resolution of work hour mismatches. *American Sociological Review* **71**, 618–638.
- Reynolds J and Aletraris L** (2010) Mostly mismatched with a chance of settling: tracking work hour mismatches in the United States. *Work and Occupations* **37**, 476–511.
- Reynolds J and McKinzie AE** (2019) Riding the waves of work and life: explaining long-term experiences with work hour mismatches. *Social Forces* **98**, 427–460.
- Schofield V, Davey J, Keeling S and Parsons M** (2006) Ageing in place. In Boston J and Davey JA (eds), *Implications of Population Ageing: Opportunities and Risks*. Wellington: Institute of Policy Studies, Victoria University, pp. 275–306.
- Silver MP, Settels J, Schafer MH and Schieman S** (2019) Getting the hours you want in the preretirement years: work hour preferences and mismatch among older Canadian workers. *Work, Ageing and Retirement* **5**, 175–188.
- Statistics New Zealand** (2017) *National Labour Force Projections*. Available at <https://www.stats.govt.nz/information-releases/national-labour-force-projections-2017base2068>.
- Swain J, Carpentieri JD, Parsons S and Goodman A** (2020) Approaching retirement after a working life in poverty. *Journal of Population Ageing*, 1–20.
- Tomlinson J** (2006) Women’s work–life balance trajectories in the UK: reformulating choice and constraint in transitions through part-time work across the life-course. *British Journal of Guidance & Counselling* **34**, 365–382.
- Van der Horst M, Lain D, Vickerstaff S, Clark C and Baumberg Geiger B** (2017) Gender roles and employment pathways of older women and men in England. *Sage Open* **7**. <https://doi.org/10.1177/2158244017742690>
- Van Solinge H and Henkens K** (2008) Adjustment to and satisfaction with retirement: two of a kind? *Psychology and Aging* **23**, 422–434.
- Van Solinge H and Henkens K** (2014) Work-related factors as predictors in the retirement decision-making process of older workers in the Netherlands. *Ageing & Society* **34**, 1551–1574.
- Warren T and Lyonette C** (2018) Good, bad and very bad part-time jobs for women? Re-examining the importance of occupational class for job quality since the ‘Great Recession’ in Britain. *Work, Employment and Society* **32**, 747–767.
- Wooden M, Warren D and Drago R** (2009) Working time mismatch and subjective well-being. *British Journal of Industrial Relations* **47**, 147–179.
- Young H and Grundy E** (2008) Longitudinal perspectives on caregiving, employment history and marital status in midlife in England and Wales. *Health & Social Care in the Community* **16**, 388–399.
- Zygouri I, Cowdell F, Ploumis A, Gouva M and Mantzoukas S** (2021) Gendered experiences of providing informal care for older people: a systematic review and thematic synthesis. *BMC Health Services Research* **21** (730).