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Caring for older parents in Norway – How does it affect labor market participation and absence from work?

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ABSTRACT

As the population ages, younger generations will increasingly be called upon to provide informal care to their aging parents. To prepare for this development, it is essential to understand how employees combine the dual responsibilities of work and caring for aging parents. By analyzing data collected in Norway in 2022 from a nationally representative sample of 6049 respondents, aged 35 to 67, we investigated how caring for older parents affects labor market participation and work absence. We provide descriptive statistics and conduct analyses with structural equation modeling. These analyses indicated that caregiving had no substantial impact on overall participation in the workforce. However, employees did use work absences to assist their parents. We differentiate between using holidays, compensatory time, and three types of formal leave: paid, unpaid, and sick leave. More than a third of the formal leave was taken as sick leave. Women were moderately more likely to use work absence to care for their parents. We conclude that caregiving for older parents currently has little effect on work participation in Norway and attribute the favorable situation in Norway to its comprehensive public elderly care system. However, a contributing factor is Norway's generous sick leave policy. Although intended for use when employees are sick themselves, sick leave is used by employees to provide care to aging parents. Sick leave seems to act as a safety valve. To mitigate the effects of informal care on work participation, welfare states may create conditions that allow employees to combine work and informal care without resorting to unauthorized sick leave. A solution could be to extend the existing support scheme for employees with young children to those providing care for their aging parents.

1. Introduction

Trends in population aging in Norway and other European countries present challenges for elderly care. The projected increase in care requirements, coupled with concerns about the fiscal sustainability of the welfare state, requires family participation in long-term care for older people. However, excessive reliance on family resources to provide care to older people could limit caregivers' participation in the labor market, potentially undermining the fiscal sustainability of societies. This paper aims to explore the balance between work and caregiving responsibilities in Norway, examining how caring for older parents can affect labor market participation and work absence. Insights from such analyses can inform stakeholders responsible for developing policies that facilitate combinations of full-time work and eldercare within families.

1.1. Increasing conflicts of interest between the welfare state and the labor market

As societies grow older, the proportion of the working age population shrinks, widening the gap between the supply and the demand for personnel in the elderly care services (NOU 2023:4, 2023; Birtha and Holm, 2017; EUROSTAT, 2021). By 2060, individuals aged 67 and above are projected to make up 26% of Norway's population, up from 15% in 2021 (Norwegian Ministry of Finance, 2020). The proportion aged 80 to 89 is forecast to triple (Hjemås et al., 2019), while those over 90 are anticipated to nearly quintuple (Statistics Statistics Norway, 2022). Consequently, the demand in the municipal health and care sector is estimated to grow by over 100,000 person-years from 2019 to 2040 (NOU 2023:4, 2023).

Given the demographic shift toward a smaller proportion of people of

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working age, it is unlikely that municipalities will be able to recruit and retain enough workers in the health and care sector. Consequently, adult children of older parents are expected to provide more help and care for their parents than common today (Norwegian Ministry of Health and Care Services, 2017). At the same time, a dwindling workforce increases the demand on employees to work full-time until retirement age (Norwegian Ministry of Finance, 2020). This creates a tension between paid work and informal caregiving, necessitating that authorities and workplaces develop regulations that help employees balance both responsibilities.

Successive governments in Norway have stressed the need to support family members who provide care to older people (Norwegian Ministry of Health and Care Services, 2012; Norwegian Ministry of Health and Care Services, 2022). However, in contrast to the comprehensive arrangements and rights established for parents of young children, efforts have been somewhat limited in introducing arrangements that facilitate continued employment while providing care for older family members. For example, providing care for children under 12 entitles working parents in Norway an annual allowance of 10 days of *paid* leave (Working Environment Act, Chapter 12. Section 12-10; LOVDATA, 2023). In contrast, employees providing care for adult family members have an annual allowance of 10 days *unpaid* leave (Working Environment Act, Chap. 12. § 12-10).

1.2. Children caring for old parents

In most of Europe, families and the state share the responsibility for elderly care, yet the extent of family involvement varies widely across countries (Verbakel, 2018). This variation is often attributed to different developments of public care services for older people (Schulz et al., 2020). In Norway, the extent of formal and informal care is nearly equal: public care services constitute 142,000 person-years, while informal care comprises 136,000 person-years (Hjemås et al., 2019).

In Europe and Norway, children often provide informal care to old parents, particularly when both parents need care or when parents live alone (OECD, 2011; Hjemås et al., 2019). This care is predominantly provided by offspring aged 45–60 and may continue well into their 60s (Phillips et al., 2002; Norwegian Ministry of Health and Care Services, 2022). Nordic countries have a higher percentage of adult children caring for parents than Southern Europe, but Southern European children devote more hours to caregiving (OECD, 2011; Verbakel, 2018). In Norway, daughters and sons primarily offer practical assistance, such as cleaning or grocery shopping, and administrative help, such as helping old parents with bill payments. Administrative help now also encompasses substantial help with the use of digital technology (Gautun and Bratt, 2023). Conversely, personal care tasks like assistance with eating or dressing are predominantly managed by public services (Lingsom, 1997; Gautun and Hagen, 2010). In countries with more limited formal care options, informal caregivers tend to provide more intensive care (Haberkern and Szydlik, 2010; OECD, 2011). In Southern Europe, where public elderly care is limited compared to Norway, caregiving children provide both practical and personal care for several hours a week (Colombo et al., 2011; Verbakel, 2018).

1.3. Impact on labor market participation and absence from work

1.3.1. Providing care to parents may affect labor market participation

Previous research shows that extensive caregiving for old parents can impact work. It may lead to fewer work hours or even a withdrawal from the job market (Kotsadam, 2011; Vos et al., 2021; Jolanki et al., 2013). In Southern Europe, daughters engaged in intensive caregiving often reduce work hours or leave their jobs (Colombo et al., 2011; Verbakel, 2018). In Norway, however, few children have provided intensive care to old parents, and research suggests minimal impact on labor market participation (Vangen, 2021; Fevang et al., 2012; Gautun and Hagen, 2010). Still, more intensive caregiving in Norway could also result in long-term effects, such as reduced earnings and limited career development (Fevang et al., 2012; Gautun and Bratt, 2017).

1.3.2. Absence from work to provide care to a parent

Norwegian studies show that caregiving children often use flexible work arrangements like holidays or compensatory time to care for old parents (Gautun, 2008; Gautun and Hagen, 2010). A nationally representative 2007 survey found that 31% of employed caregivers allocated holiday time for this purpose within a year (Gautun, 2008).

Formal leave is an alternative, but in Norway, formal leave options vary for caregiving employees. Public sector workers and some in large, knowledge-intensive private firms have access to a short-term paid welfare leave for family care. However, many others are restricted to unpaid leave. Since 2010, all employees in Norway are entitled to up to 10 days of unpaid leave annually for adult family care (Working Environment Act, Chapter 12, § 12-10).

Some Norwegian caregivers resort to another option: unauthorized sick leave to care for an old parent (Gautun and Hagen, 2010). Despite its intent for actual illness, Norway's sick pay scheme can appeal to caregivers due to its full pay from day one (Act Relating to National Insurance, Chapter 4. Sick pay; LOVDATA). Employees can self-report sickness and are permitted up to three consecutive calendar days of fully paid leave without medical documentation. They can exercise this option up to four times a year. This is a minimum standard. In many organizations, employees are entitled to self-report sickness for up to eight calendar days at a time and up to 24 calendar days within a year. A nationally representative survey (Gautun, 2008) found that within a year, 4% used paid leave (averaging three days among those who did), 2% took unpaid leave (averaging nine days), and 3% used sick leave (averaging four days) for caregiving.

1.4. The significance of individual characteristics of caregiving children

National policies on elderly care influence how much care adult children provide for aging parents and the impact of such care on their work. Individual factors such as age, gender, and education also play a role. In most of Europe, daughters, particularly those with lower educational levels, are often the primary intensive caregivers and are more likely to leave the workforce due to caregiving demands (Arber and Ginn, 1995; Bauer and Sousa-Poza, 2015; Kotsadam, 2011; Herlofson and Ugreninov, 2014; Colombo et al., 2011; Jolanki et al., 2013; Van Houtven et al., 2013; Kotsadam, 2011, 2011; Lilly et al., 2007). A similar trend is evident even in a Nordic country, Sweden. In Sweden, cuts in public elderly care have affected daughters of old people more than the sons, and less-educated women more than their highly educated counterparts (Szebehely and Ulmanen, 2009; Ulmanen and Szebehely, 2015). Wealthy families have responded to cuts in public elderly care services by resorting to private elderly care (Ulmanen and Szebehely, 2015).

Norway exhibits minimal differences in the level of care provided to parents by daughters and sons, and minimal differences between children of different socioeconomic backgrounds. Age is a much stronger predictor. Specifically, research shows a positive association between caring for old parents and employees' age, up to their retirement age of 67 (Gautun and Bratt, 2023). Possible explanations include the aging of employees' parents as well as the increased opportunity for caregiving among those who exit the workforce before reaching pension age (Kannisto and Vidlund, 2022). Caregiving for older parents has so far had no obvious impact on work among sons or daughters, as corroborated by nationally representative surveys and register data (Fevang et al., 2012; Vangen, 2021). Also, work absence due to caregiving has not differed based on education (Gautun and Hagen, 2010). However, more daughters (4%) than sons (2%) have taken sick leave to assist their parents, and daughters (6%) have also been more likely than sons (2%) to opt for unpaid leave (Gautun and Hagen, 2010).

1.5. Comparing industry sectors and different forms of work absence

The present research extends beyond previous work by investigating how caregiving and work absence vary across industry sectors. It groups industries into sectors based on gender composition, education levels, and labor relations (such as unionization or collective agreements) - factors that could influence how caregiving is related to work attendance.

2. The current research

The current research employs a nationally-representative sample of adults aged 35 to 67 with at least one living parent. Prior research using this dataset (Gautun and Bratt, 2023) examined 15 specific items on caregiving and their predictors. The present study intends to use Confirmatory Factor Analysis (CFA) to classify these 15 items into broader categories: administrative help, practical help, and personal care. Although personal care by children of old parents is uncommon, we expect a strong correlation with the other two categories. Pending data validation, we will use a factor model with the three types of assistance as indicators for generalized caregiving. This improves on previous single-item or composite measures. We will then assess how generalized caregiving is associated with work participation and absence, and explore whether personal care has a unique influence.

Within the age range considered in the present research, work participation tends to decline moderately with increasing age. Given that older employees typically have older parents and are more likely to provide care to them, we expect that age will also predict work absence due to caregiving.

Hypothesis 1. Age predicts both lower labor market participation and more work absence for caregiving.

Whereas European research links caregiving for parents with reduced work participation, prior Norwegian studies have not identified such a relationship. Given the infrequency of intensive caregiving by adult children in Norway, we expect the present data to concur with these earlier Norwegian findings.

Hypothesis 2. Caregiving for parents is not linked to reduced labor market participation.

However, caregiving will likely still influence work absence. We expect this to be true for all forms of absences examined, including sick leave.

Hypothesis 3. The total extent of caregiving for parents is associated with reported work absence to care for a parent, regardless of the form of absence – whether it be holidays, compensatory time, paid leave, unpaid leave, or sick leave.

Earlier research in Norway, conducted almost two decades ago, revealed that daughters more than sons took sick leave or unpaid leave to help old parents. We anticipate this conclusion to still apply.

Hypothesis 4. More daughters than sons take sick leave or unpaid leave to care for their parents.

Highly educated employees usually enjoy greater work flexibility and frequently work in the public sector, where they have access to paid leave to provide care for parents. Therefore, we expect education to predict the type of work absence used.

Hypothesis 5. Highly educated employees use more paid leave and less unpaid leave or sick leave compared to employees with lower education.

Some European studies have suggested that sociodemographic variables can moderate the link between caregiving and work absence. For example, in Norway, highly educated employees might be less likely to use sick leave when their parents need care, since they their workplaces offer discretionary general welfare leaves options. We explore moderation effects by age, gender, education, and income.

Hypothesis 6. Sociodemographic variables moderate associations between generalized caregiving and the specific forms of work absence used.

Some European studies have indicated a stronger moderation effect by education among women than men. We address this notion with a distinct hypothesis.

Hypothesis 7. Women with lower education levels are more likely to resort to sick leave than highly educated women.

In addition to testing the above hypotheses, we also investigate how work absence for caregiving differs across industry sectors. We are not aware of prior research addressing such differences across industries, and this part of our analysis will be exploratory.

3. Data and methods

3.1. Sample

Our study used data from a Norway-wide web survey conducted in March–April 2022 by Kantar AS (https://kantar.no). The data collection was integrated into Kantar's Gallup Panel. This panel comprises 40,000 consenting individuals aged 15 years and older, designed to reflect the adult population of Norway, incorporating sampling weights.

Our survey module, part of the research project "Combining Work and Care for Older Parents" funded by The Research Council of Norway (project no. 3154428)", targeted employees aged 35–67 with at least one living parent. Kantar surveyed 14,427 in this group, achieving a 42% response rate with 6049 completing the survey. This overall sample had a mean age of 50.5 years (SD = 8.46); 56.8% were female; 96.8% had education beyond elementary school, and 63.7% had education beyond high school (university or college). This dataset has previously been used in another publication (Gautun and Bratt, 2023), which investigated the prevalence and predictors of specific forms of help and care to parents. Our current research differs from the earlier study by focusing on work participation and work absence as dependent variables, and also by incorporating generalized caregiving as a latent variable.

Parts of the analyses used subset of the overall sample: employed respondents who also provided help or care to a parent at least once a month (N = 2386). This subset likely included a few self-employed individuals, foremost in the primary industries, consistent with common practice in the literature. The subsample had a mean age of 51.3 years (SD = 7.83); 97.9% of them had education beyond primary school, and 66.0% beyond high school. Some of the analyses explored potential differences across industry sectors. Table 1 shows our grouping of industries into sectors and provides descriptive statistics for each sector.

3.2. Measurements

Kantar provided register data on participants' age, gender, education, and industries. The questionnaire adapted items from previous surveys on employment and caregiving (Gautun, 2003; Gautun and Bratt, 2017; NorLAG, 2008,2012; Opinion, 2021). The items were refined by the the researchers at "Norwegian Social Research (NOVA) and Work Research Institute (AFI)" at Oslo Metropolitan University working on the project "Combining Work and Care for Older Parents". Unlike many studies that have used a brief, general measure of caregiving, this research employs a detailed, multi-item measurement of various types of assistance. This approach not only provides nuanced data but also improves measurement accuracy by allowing us to use latent variables, which account for and remove measurement errors unique to single items (Kline, 2016). We used 15 items to assess help and care provided over the past six months, applied separately for assistance

Table 1
Industry sectors.

Industry sector	N	Mean age (SD)		Percent female	Specific industries included
Primary industries	37	49.03	(8.45)	32.4	Agriculture; forestry; fishing
Public services	690	50.88	(7.75)	74.4	Kindergarten and schools; health services
Justice, security	43	51.91	(7.71)	37.2	Defence; police; justice; security
Knowledge industries	653	51.63	(7.68)	49.0	State administration; Culture, media; research; tech & IT; finance
Manual industries	369	52.08	(7.38)	23.3	Trad. industries; building/construction; oil/gas/energy
Service industries	219	51.53	(7.77)	47.0	Trade; tourism; restaurants; and similar services
Transportation	118	51.13	(7.85)	22.9	

to mothers and to fathers. These items utilized a 5-point ordinal scale (daily, weekly, monthly, less frequently than monthly, or never).

We refer to Fig. 2 below for an overview over items on help and care. The Supplemental Material, Table S1, provides a comprehensive table with these items, showing how we grouped them into three subsets: administrative help, practical help, and personal care. Three items assessed *administrative help*: assistance with using digital technology, bill management, and telephone contact with public offices. Seven items assessed *practical help*: cleaning, laundry, and other household chores; home repairs, gardening, maintenance, and snow clearing; grocery shopping; transporting the parent; engaging in activities outside the home; aiding the parent in exercise; and accompanying the parent to medical appointments. Lastly, five items assessed *personal care*: assisting the parent get in or out of bed; dress or undress; use the toilet; eat; or maintain personal hygiene. Further details on these items are available in the Supplemental Material, Table S1.

Work participation was assessed by combining respondents' reported income source and a five-point scale of weekly working hours (1–10 h, 11–20 h, 21–32 h, 33–37.5 h, or more than 37.5 h); the variable "work participation" added the value 0 for unemployment. Due to few respondents working 1–10 h weekly (0.5% of the employees), we merged this category with the 11–20 h category in certain analyses. We also included a measure of respondents' subjective *health*, asking "How do you perceive your physical health?" and "How do you perceive your mental health?", both items utilizing a 5-point scale with only the two extremes labelled: "very bad" and "very good".

Work absence for caregiving was assessed with various items, each targeting a specific form of absence: using holidays, using compensatory time, paid leave, unpaid leave, and sick leave. To ensure adequate sample sizes for statistical analyses, we grouped industries into seven industry sectors. The criteria for this grouping included gender composition, required education, labor agreements, employee rights, and income levels. A distinct category was used for knowledge industries.

3.3. Analyses

After initial descriptive analyses, we employed CFA to validate a three-factor model of caregiving, comprising administrative help, practical help, and personal care. We first restricted the CFA to caregiving for mothers, making minor adjustments to the model to improve fit. The resulting model was subsequently tested on caregiving for fathers and, finally, for any parent. The factor model served as a basis for SEM analyses with work participation or caregiving-related absence as dependent variables. Due to strong correlations between first-order factors for caregiving, and to facilitate subsequent analyses, we introduced a second-order factor called "generalized caregiving". We examined various absence types of absence – holidays, compensatory time, formal leaves – using dichotomous variables, given limited prevalence of each specific form of absence. SEM models also included sociodemographic covariates and tested for differences across industry sectors.

The SEM models included in the Results section used a single path from generalized caregiving to work absence. We also considered models that included an additional direct path from personal care to work absence, aiming to identify any unique effect. However, these analyses showed little support for such a unique effect of personal care.

Tests with CFA and SEM followed common recommendations for model fit (Mueller and Hancock, 2010), with the Comparative Fit Index (CFI) above 0.95, the Root Mean Square Error of Approximation (RMSEA) not above 0.05, and the Standardized Root Mean Square Residual (SRMR) below 0.08. Given the large sample sizes, we accepted Chi-square-based p-values well below 0.05. Analyses with CFA and SEM used Mplus 8.10 (Muthén and Muthén, 1998–2017), incorporating sampling weights. Mplus was run from Stata 17, utilizing the Stata addon "runmplus" (Jones, 2010). Plots were developed with R (R Core Team, 2019) and the R package "ggplot2" (Wickham, 2016). Detailed results from statistical analyses are available in the online Supplemental Material, which was developed with the R packages "knitr" (Xie, 2023) and "kableExtra" (Zhu, 2021). All code for analyses is included in the online Supplemental Material.

4. Results

4.1. Overall working hours

We initially analyzed data from all respondents who had at least one living parent, regardless of their employment status (N = 6049, 52% female). Of these individuals, 19.5% were unemployed and 10% worked part-time (less than 33 h a week; see Table 2 for details on working hours).

4.1.1. Employees providing help and care to parents

Among employed respondents, 49.7% had assisted a parent at least monthly over the past half-year. Among these caregiving employees, a substantial portion of part-time workers (11.6%) reported that the need to care for a parent influenced their choice to work part-time; 2.6% cited it as the main reason.

Many employees who provided help or care to a parent at least once a month utilized compensatory time to facilitate this assistance (20.5%). Using holidays for this purpose was less common, yet still notable (8.4%). Formal leave options were also used: 4.5% had been granted leave with pay to care for a parent, and 3.2% had opted for unpaid leave. By the employee's own accounts, 2.3% had resorted to sick leave to care for a parent. For more details, see the Supplemental Material, Tables S3 and S4.

Fig. 1A illustrates how the use of holidays (solid line) or compensatory time (dashed line) to care for a parent varied with the age of employees. Both types of absence generally increased with age, consistent with Hypothesis 1. However, the use of holidays declined among men from their late 50s, but increased among women in the same age

Table 2
Working hours among employed respondents.

	Women (N = 2534)		Men (N = 2127)	
Working hours per week	Frequency	Percent	Frequency	Percent
1–10	16	0.6%	10	0.5%
11–20	127	5.0%	31	1.5%
21–32	221	8.7%	66	3.1%
33–37.5	1002	39.5%	741	34.8%
More than 37.5	1168	46.1%	1279	60.1%

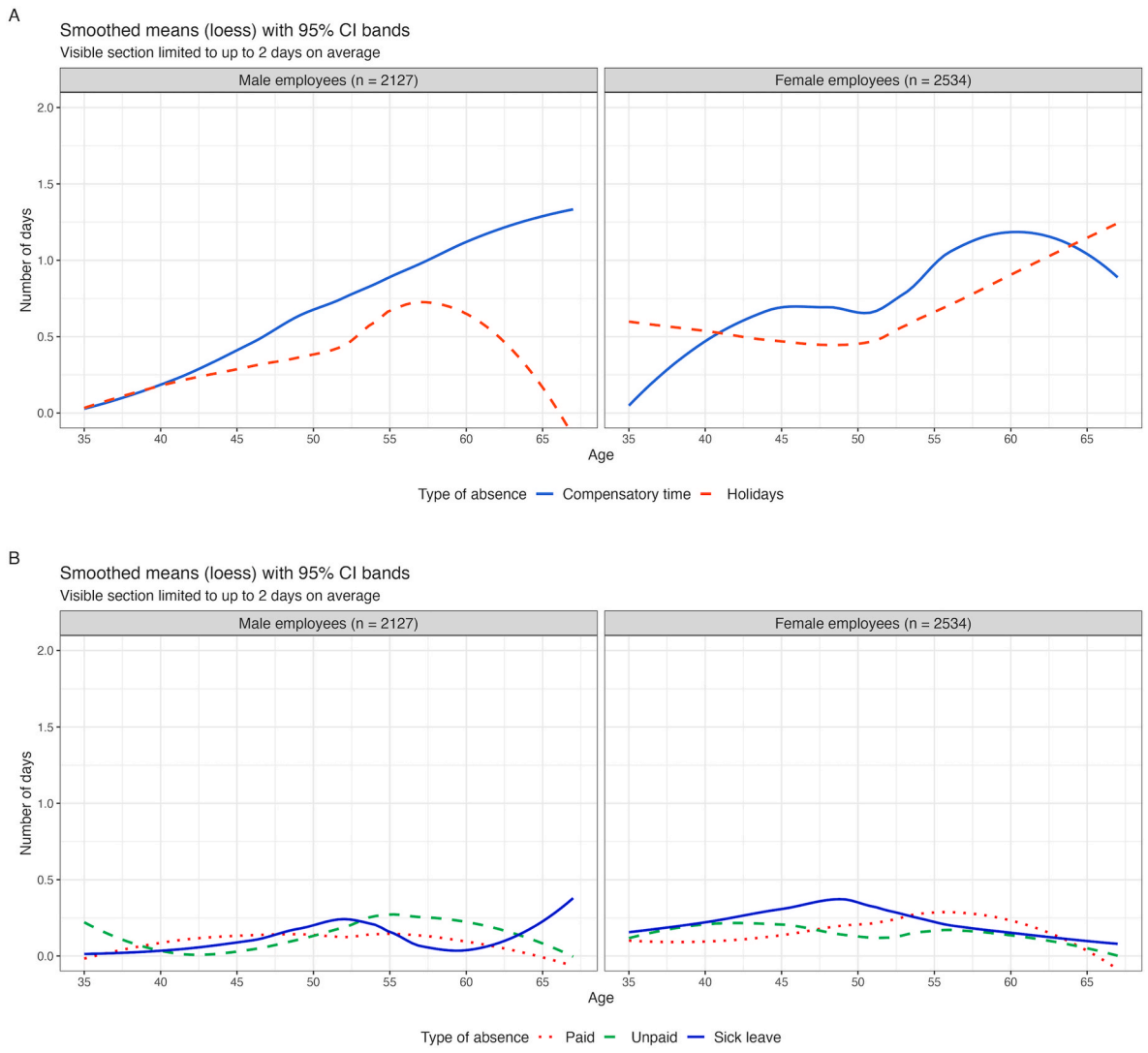

Fig. 1. Utilization of (A) holidays or compensatory time or (B) leave to care for a parent: smoothed average days by age.

range.

Fig. 1B displays differences across age for the three types of formal leave (paid, unpaid, and sick leave). Contrary to Hypothesis 1, the use of formal leave to care for a parent did not increase with age and tended to decline among the oldest employees. An exception to this decline among the oldest employees was men's use of sick leave.

4.1.2. Population-based loss of workdays

We used the current data to estimate nationwide workdays lost due to employees caring for a parent. Computations included all employees aged 35–67, regardless of whether they provided care, and incorporated sampling weights for enhanced accuracy. We then multiplied these figures by the 2020 population size for employees aged 35–67 with at least one living parent, using data on the population size made available by Statistics Norway. This population number included only ethnic Norwegians, who also constituted the majority of our sample (86% were born in Norway and had at least one parent born in Norway). The final estimates, which assumed a target population of 1.3 million (aged 35 to 67, employed, with at least one living parent), indicated a total of 624,000 workdays lost yearly due to caregiving for parents: 182 thousand days to paid leave, 203 thousand days to unpaid leave, and 239 thousand days to sick leave. Consequently, 38% of all formal leave taken to care for a parent was sick leave.

4.2. Testing predictors of work participation and work absence

4.2.1. Help and care to parents as latent variables

We used SEM models to estimate associations between generalized caregiving and either work participation or work absence. Prior to these analyses, we developed a measurement model of generalized caregiving with CFA. A theory-based CFA model – which assumed separate factors for administrative help, practical help, and personal care – was tested with the data on assisting mothers, and parameters were added to achieve good model fit. The resulting model is illustrated in Fig. 2, with dashed arrows showing parameters added to the original theoretical model. Blue and red lines in the figure represent positive and negative effect sizes, respectively. This factor model was subsequently tested on assisting fathers and then on assisting any parent, demonstrating good fit across all applications (e.g., CFI consistently above 0.985, RMSEA below 0.046, and SRMR below 0.032). Details on parameters in all factor analyses are available in Table S5 of the supplemental material.

The analysis indicated that administrative and practical help for a parent were separate yet strongly correlated: $r = 0.82$ for help to mothers and $r = 0.88$ for help to fathers. These two forms of help also showed substantial correlations with personal care. Personal care correlated with administrative help at 0.72 and 0.80 and with practical help at 0.68 and 0.82. Since the current research focused on the relationship between generalized caregiving and work participation or work

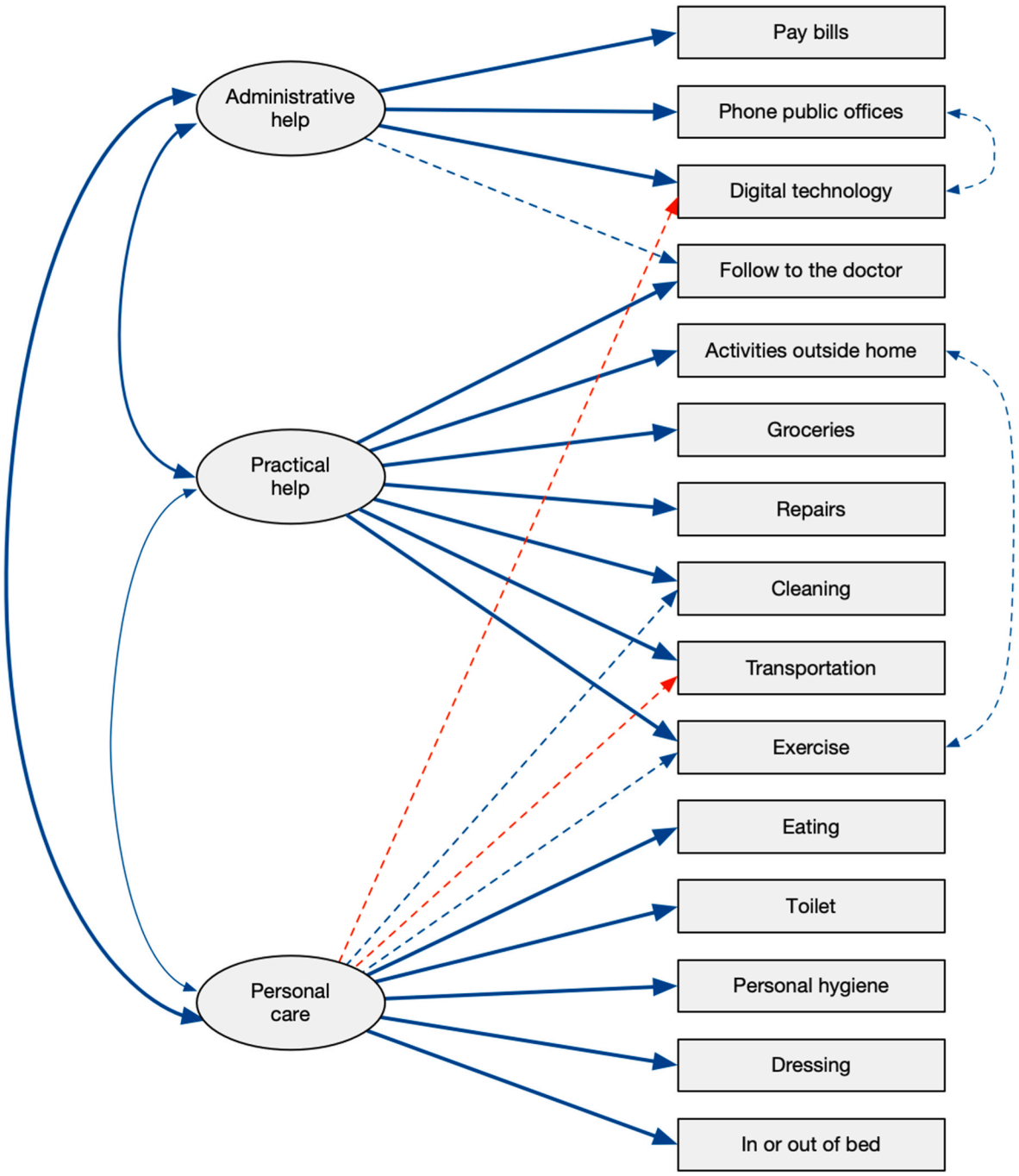

Fig. 2. Factor model of help and care to parents: thickness of paths is indicative of parameter strength; red color means negative – paths drawn with dashed lines were added exploratorily

absence, we used the three first-order factors (administrative help, practical help, and personal care) as indicators of a generalized caregiving (a second-order factor). We also considered whether adding a unique path from personal care to work participation or work absence improved the model, but found it did not.

4.2.2. Participation in the work force

We investigated associations between caregiving provided to parents and workforce participation, using all available data ($N = 6049$ after two individuals with missing data were dropped). The path diagram in Fig. 3 provides an overview of the results and also illustrates the second-order factor for generalized caregiving. Dotted paths in Fig. 3 indicate parameters with confidence intervals that included both negative and positive values.

Women and men provided similar amounts of help and care to parents. Higher age had a substantial association with generalized caregiving. A minor, negative unique path from age to personal care improved model fit, but personal care was still overall positively associated with age (via generalized caregiving).

The strongest predictor of work participation was respondents' subjective health, followed by age, which was a negative predictor. Older age had a slight positive association with self-reported health, in part because the assessment included both mental and physical health, but possibly also because subjective health may have been age adjusted by the respondents. Women were marginally less active in the workforce, due to holding more part-time positions. Higher education levels

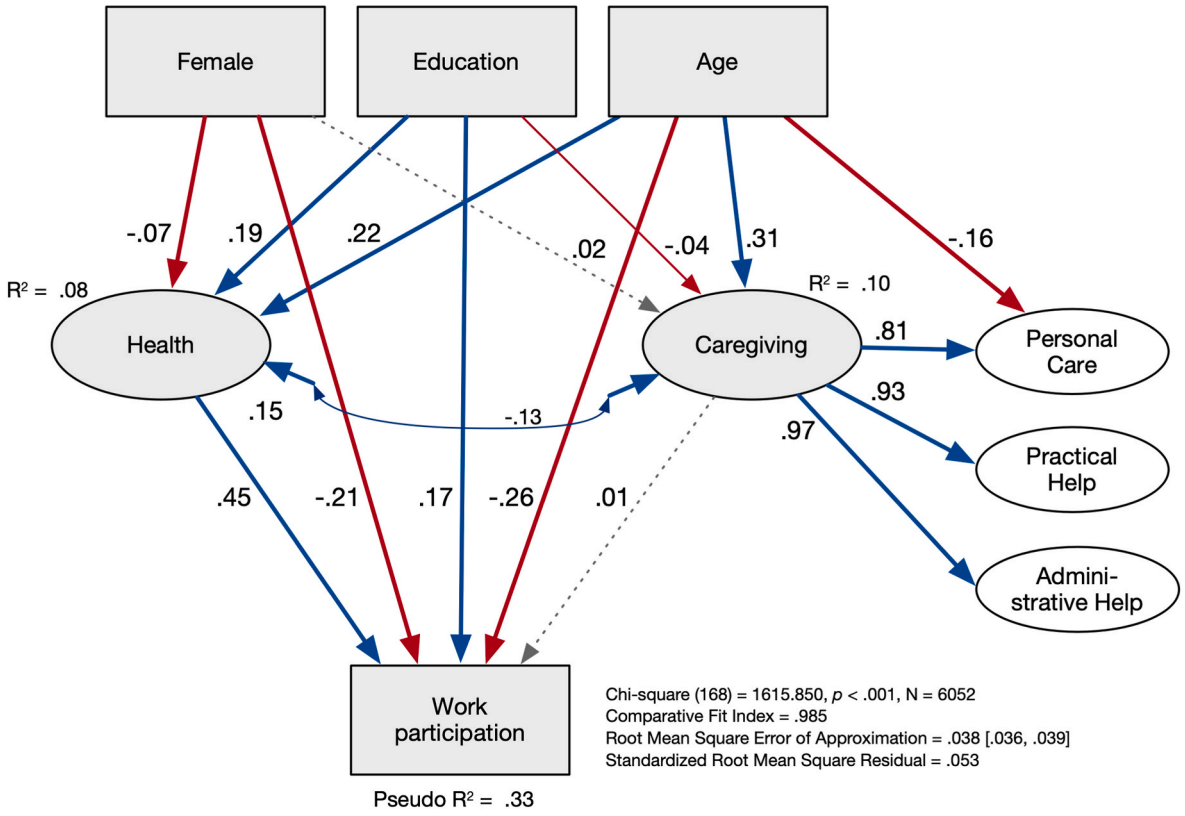

Fig. 3. Participation in the work force, standardized estimates (latent variables are drawn as ovals).

correlated with increased workforce participation. For detailed results and unstandardized effect sizes with confidence intervals, we refer to Table S6 in the Supplemental Material.

The model in Fig. 3 included a single path linking generalized caregiving for a parent with work participation. Any correlation that exists between assisting parents and work participation would likely reflect a reciprocal causality. In the SEM model using cross-sectional data, we assumed a directional path from generalized caregiving to

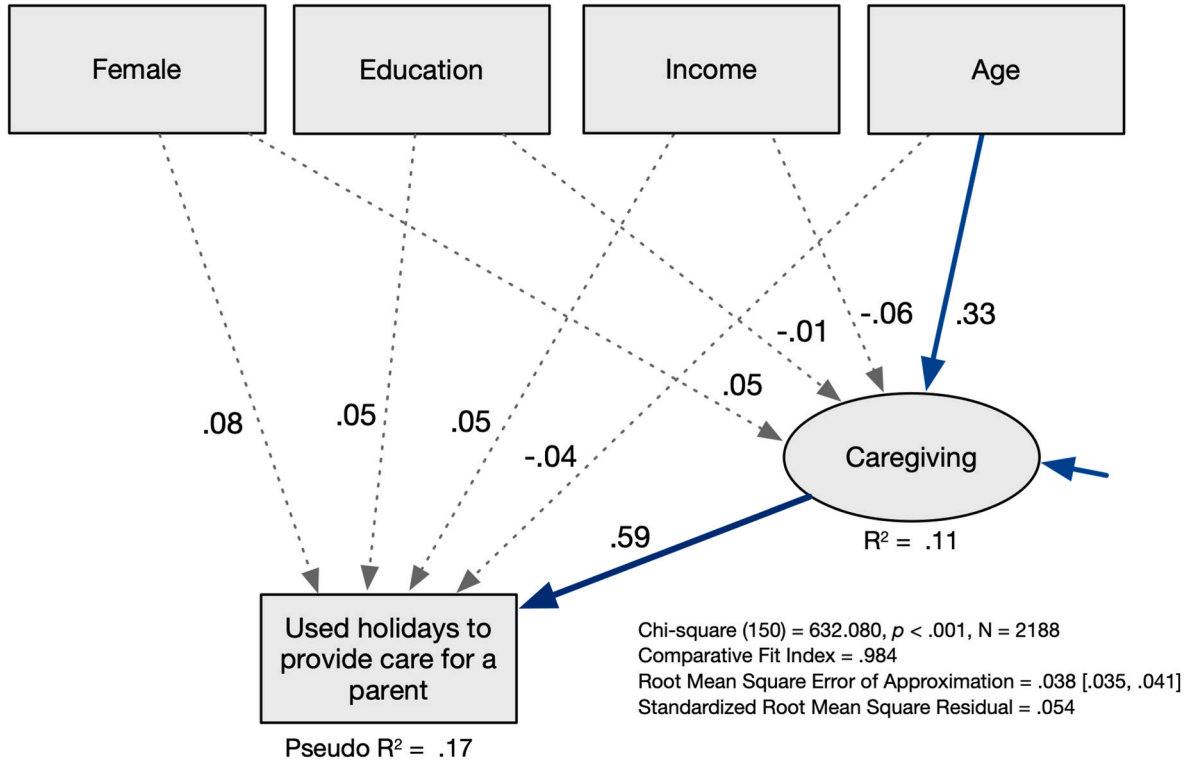

Fig. 4. Using holidays for caregiving provided to parents, standardized estimates (latent variables are drawn as ovals).

work participation. This path was estimated to be approximately zero, strongly indicating that caregiving for a parent had no discernible impact on work participation – consistent with Hypothesis 2.

4.2.3. Absence from work

Next, we examined employees who provided any form of help or care to a parent at least once a month. Fig. 4 shows standardized estimates for our model of *using holidays to care for a parent*. The extent of caregiving for a parent strongly predicted this choice. Gender, and education seemed to have minimal effect.

Table 3 provides unstandardized estimates along with their confidence intervals, and gives separate estimates for using holidays, compensatory time, or formal leave. This table aggregates the three types of formal leave into a single variable, termed "leave". Separate estimations for the three types of formal leave are available in Table 4.

Consistent with Hypothesis 3, the overall amount of caregiving for parents strongly predicted any form of work absence for this task. The association between the amount of caregiving and compensatory time was notably strong. Neither age, gender, nor education were substantial predictors of absence for caregiving – which contradicted our Hypothesis 1 regarding age. However, education proved to be a stronger predictor for using holidays or compensatory time compared to using formal leave, reflecting the link between education and having flexible working conditions.

The results were mostly similar across the three types of leave, as shown in Table 4. However, we found gender differences in taking paid leave; women were more likely to be among the 105 who took paid leave. In contrast, gender showed no clear effect among the 75 who took unpaid leave or the 54 who took sick leave. These results contrast with Hypothesis 4, which had predicted that women would be more likely to take unpaid or sick leave. The higher use of paid leave among women probably reflected the high proportion of female employees in the public sector.

We also note that taking paid leave exhibited a minor association with education (in line with Hypothesis 5), reflecting different opportunities across workplaces. However, the second part of Hypothesis 5 was not supported: Owing to the limited sample sizes for unpaid and sick leave, combined with point estimates close to zero, education was not predictive of frequent use of these types of leave.

Table 4
Unstandardized regression weights for specific types of formal leave (N = 2188).

Parameter	Paid leave		Unpaid leave		Sick leave	
	Est	95% CI	Est	95% CI	Est	95% CI
Regression coefficients for caregiving						
Caregiving ← age	0.03	[0.02, 0.03]	0.03	[0.02, 0.03]	0.03	[0.02, 0.03]
Caregiving ← gender	0.07	[-0.01, 0.15]	0.07	[-0.01, 0.15]	0.07	[-0.01, 0.15]
Caregiving ← education	−0.01	[-0.03, 0.02]	−0.01	[-0.03, 0.02]	−0.01	[-0.03, 0.02]
Caregiving ← income	−0.02	[-0.04, 0.00]	−0.02	[-0.04, 0.00]	−0.02	[-0.04, 0.00]
Personal Care ← age	−0.03	[-0.04, −0.02]	−0.03	[-0.04, −0.02]	−0.03	[-0.04, −0.02]
Regression coefficients for absence						
Absence ← caregiving	0.57	[0.44, 0.71]	0.51	[0.32, 0.70]	0.64	[0.45, 0.83]
Absence ← age	0.01	[-0.01, 0.02]	−0.01	[-0.02, 0.01]	−0.01	[-0.03, 0.01]
Absence ← gender	0.40	[0.17, 0.62]	0.06	[-0.20, 0.31]	0.08	[-0.20, 0.35]
Absence ← education	0.14	[0.05, 0.23]	0.01	[-0.08, 0.11]	−0.03	[-0.12, 0.06]
Absence ← income	−0.02	[-0.11, 0.07]	−0.03	[-0.09, 0.04]	−0.04	[-0.10, 0.03]

4.3. Moderation effects by sociodemographic variables

We had hypothesized that sociodemographic variables would influence associations between generalized caregiving and specific forms of work absence (Hypothesis 6). Detailed results from tests of such moderation effects can be found in the Supplemental Material, Tables S11–S18. Did any of the sociodemographic variables affect the likelihood of taking work absence as caregiving responsibilities increased? We found no such moderation effect related to age. However, women were slightly more likely than men to take work absence in response to increased caregiving responsibilities. The analysis also suggested a marginal moderation effect by education: As caregiving increased, those with higher education were somewhat more likely to take compensatory leave or paid leave, likely indicative of greater workplace flexibility. Similarly, the analysis revealed only a slight moderation effect by income; higher-income employees were slightly more likely to use compensatory time in such situations.

Table 3
Regression weights (unstandardized and standardized) for using holidays, compensatory time, or formal leave to care for a parent (N = 2385).

Parameter	Holidays			Compensatory time			Formal leave		
	Est.	95% CI	Beta	Est.	95% CI	Beta	Est.	95% CI	Beta
Regression coefficients for Caregiving									
Help & Care ← Age	0.03	[0.02, 0.03]	0.30	0.03	[0.02, 0.03]	0.30	0.03	[0.02, 0.03]	0.30
Help & Care ← Gender (female)	0.09	[0.02, 0.16]	0.06	0.09	[0.02, 0.16]	0.06	0.09	[0.02, 0.16]	0.06
Help & Care ← Education	−0.02	[-0.04, 0.01]	−0.04	−0.02	[-0.04, 0.01]	−0.04	−0.02	[-0.04, 0.01]	−0.04
Personal Care ← Age	−0.03	[-0.04, −0.02]	−0.26	−0.03	[-0.04, −0.02]	−0.26	−0.03	[-0.04, −0.02]	−0.26
Regression coefficients for absence from work									
Absence ← Caregiving	0.50	[0.10, 0.90]	0.33	1.38	[0.97, 1.79]	0.89	0.56	[0.15, 0.97]	0.38
Absence ← Personal Care	0.23	[-0.06, 0.52]	0.21	−0.54	[-0.84, −0.23]	−0.47	0.04	[-0.25, 0.34]	0.04
Absence ← Age	0.01	[-0.00, 0.03]	0.10	0.01	[-0.01, 0.02]	0.05	0.00	[-0.02, 0.01]	0.00
Absence ← Gender (female)	0.24	[0.07, 0.42]	0.12	0.18	[0.04, 0.32]	0.08	0.26	[0.10, 0.42]	0.12
Absence ← Education	0.08	[0.02, 0.15]	0.12	0.13	[0.08, 0.18]	0.18	0.03	[-0.02, 0.09]	0.05
Model fit									
Chi-square	711.27			728.30			704.65		
Degrees of freedom	135.00			135.00			135.00		
p-value	0.00			0.00			0.00		
CFI	0.98			0.98			0.98		
RMSEA	0.04			0.04			0.04		
RMSEA, lower limit	0.04			0.04			0.04		
RMSEA, upper limit	0.04			0.05			0.04		
SRMR	0.05			0.05			0.05		

Table note. CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual.

A separate hypothesis (Hypothesis 7) posited that women with lower education levels would be more likely to resort to sick leave than highly educated women. The analysis did not support this prediction; the point estimate for the interaction between women's caregiving and their education as predictors of sick leave was positive rather than negative, albeit with a confidence interval that included both negative and positive values $b = 0.10$ [95% CI = −0.07, 0.28]. The interaction effect between income and caregiving as predictors of sick leave was more definitive, though moderate: The analysis showed higher probability to use of sick leave among women with higher income: $b = 0.12$ [0.01, 0.24]. Details of these tests for women specifically can be found in the Supplemental Material, Tables S19–S23.

4.4. Differences across industries

We added exploratory analyses of differences in work absence across industries (see the Supplemental Material, Tables S24 and S25). The justice and security sector had a relatively high number of employees using paid leave to care for a parent, a trend that was consistent with the availability of paid leave in the public sector. In the knowledge sector, which likely offered more flexible working hours compared to several other sectors, a relatively high number opted for using compensatory time. Employees in transportation primarily used holidays for caregiving for a parent. This sector, along with the primary industries, also showed less frequent use of compensatory time compared to other sectors.

5. Discussion

The present research found that, so far, there is no evidence to suggest that caregiving to parents in Norway is associated with reduced participation in the workforce. Although 12% of care providers in part-time positions reported that their caregiver role influenced their decision to work part-time, the statistical analysis could not substantiate any overall link between caregiving and reduced workforce participation. The absence of a link between caregiving to parents and reduced work participation aligns with earlier research in Norway but stands in contrast to findings in several other European countries. We attribute these favorable findings to Norway having extensive public care services available for older people, as do the other Nordic countries. Such services for older people benefit not only those in need for care but also their family members (Gautun and Hagen, 2010; Kotsadam, 2011; Rostgaard et al., 2022). Conversely, in Southern Europe, where public care services for the older population are scarcer, many daughters of elderly parents have to reduce employment to provide care for their parents (Kotsadam, 2011).

Whereas no link between caring for parents and work participation was evident, we did find a link to work absence. Most work absence to care for parents was taken as compensatory time or holidays, which may not affect overall work attendance. However, some workdays were lost to formal leave when employees provided care to parents. Based on our data and sample weights, we estimated that leave to care for parents accounted for a yearly loss of 624,000 workdays in the target population (i.e., among 1.3 million ethnic Norwegian employees aged 35–67 with at least one living parent). This estimate suggests no increase since 2007 in the overall work absence to care for parents (see Gautun, 2008). Notably, 38% of the workdays lost to leave to care for a parent was taken as sick leave, an unauthorized form of leave to provide care to family members.

Work absence due to caregiving for parents did not vary substantially across sociodemographic variables such as gender, education, or income. This finding may reflect that the extent to which working-age children help older parents primarily depends on the parents' need for care. However, women were more likely to use paid leave for caregiving, reflecting that many women worked in the public sector and thus had access to its paid welfare leave scheme. We also found that the use of compensatory leave and holidays increased with age, the latter reflecting not only increased caregiving burden among older employees, but probably also the fact that employees 60 years and older are entitled to an additional eight days of leave each year (Act relating to Holidays, Chapter 4; LOVDATA).

We found minimal interaction effects between sociodemographic variables and other predictors. For instance, employee age had no substantial moderating effect on the relationship between caregiving and work absence. However, gender slightly moderated the use of work absence for caregiving: the association between caregiving and work absence was more pronounced among women than among men, Seemingly, women were moderately more likely to use work absence when faced with similar informal care obligations. An alternative explanation could be that our metric for assisting parents – the number of days used – did not fully capture daughters' effort relative to sons'. Specifically, it is not clear whether reporting hours, rather than days, would reveal greater assistance by daughters than by sons.

We did not find any clear indication that education moderated the association between women's caregiving and their use of sick leave. However, we identified a moderate interaction between income and caregiving among women: women with higher income were marginally more likely to use sick leave when faced with caregiving responsibilities.

The comparison of work absences across industries corroborated that employees in the public sector were more likely to use paid leave for caregiving to a parent, consistent with the availability of such leave in the public sector. It also showed that the knowledge sector, which often features flexible working hours, made greater use of compensatory time than other sectors. This finding is illustrated by a recent qualitative Norwegian study, based on interviews with 34 employees with caregiving responsibilities at four different workplaces: a specialized retailer, a food production facility, a regional administrative authority, and a hospital (Gotehus, 2023). Informants from the regional administrative authority, who were predominantly highly educated and worked regular office hours, reported significant autonomy over their work schedules as well as having flexible working hours. These informants highlighted that flexible working hours and the ability to take compensatory time facilitated their balancing of work with providing informal care for elderly parents. However, this flexibility came at a cost: the workload could become substantial when the employees needed to make up for daytime absences by working in the evenings to catch up on unfinished tasks.

5.1. Facing increased need for informal care

Overall, the current findings were favorable, indicating no negative impact on labor market participation and only a moderate loss of working days due to caregiving for parents. We concur with previous research, attributing these favorable findings to a well-developed public welfare scheme for elderly care in Norway (OECD, 2011). When a large portion of the personal care for older people is provided by public services, their family members are better able to participate full-time in the workforce.

But this advantageous situation in Norway may soon change. Even today, public caregiving for older people in Norway is increasingly strained due to limited resources and staffing shortages, making it difficult to maintain an adequate number of professional care providers, given their demanding work environment (Bratt and Gautun, 2018). These challenges in the Norwegian care services will only intensify as the large post-war birth cohorts age and require care. The professional care services will likely fall short of meeting the needs of these and later cohorts of older people, and family members are likely to transition from providing moderate care to providing much more intense care for their parents.

Policies need to be implemented to achieve sustainable working conditions for health workers, thereby preventing them from quitting due to poor working conditions (Bratt and Gautun, 2018). Equally

important is ensuring that providers of informal care can balance their caregiving responsibilities with employment. In other parts of Europe, providing informal care to older parents has led many adult children to either exit the workforce or substantially reduce their working hours (Colombo et al., 2011; Ulmanen and Szebehely, 2015; Verbakel, 2018).

Even our current findings from Norway point to this issue. All employees in Norway are entitled to 10 days of unpaid leave annually to care for an adult family member, and some have access to paid leave for this purpose. However, our data indicated that 38% of workdays lost to formal leave for caregiving for aging parents were taken as sick leave. Despite the introduction of unpaid leave for caring for adult family members in 2010, our data showed no change in the use of sick leave for this purpose compared to earlier surveys (Gautun, 2008). Norway's generous sick leave policy, which allows for self-reported sick days with full pay from day one, serves as a safety valve for caregiving for older parents. This enables employees with caregiving responsibilities to balance informal caregiving and work, potentially preventing them from exiting the workforce or reducing their working hours. It may also help to mitigate stress-based illness among caregivers.

Employees considering utilizing the generous sick leave policy for caregiving face a moral dilemma, and not everyone is willing to use sick leave in this manner. Furthermore, when employees opt for sick leave to provide care to family members, it skews the data on time spent on caregiving and its impact on work. The data will then present a biased picture of the labor intensity of informal caregiving and its effects on families.

5.2. Using childcare scheme as a model

Since the 1980s, Norway has implemented reforms to alleviate the work-care squeeze for parents of young children (Leira, 1996), such as introducing paid maternity leave and short-term leave programs and expanding day-care facilities. An aging society amplifies the need for authorities to also develop solutions that make the work-care squeeze manageable for employees when their parents require care. To maintain high employment rates among older workers, targeted labor market policies could be tailored specifically for informal caregivers of elderly parents. Such arrangements for this group of employees could alleviate their burden and help them avoid lying and use sick leave when assisting parents.

Generous policies for parents of young children have had clear social benefits (Leira, 1996). Implementing similar policies for caregivers of older parents could also yield advantages. European countries grappling with aging populations will need to facilitate work participation not only for parents of young children, but also for employees with older parents. Extending paid leave policies to cover assistance to care-needing parents could be one such measure. The long-term economic and social benefits of preventing caregivers from exiting the workforce could outweigh the expenses incurred by expanding rights to paid leave.

5.3. Strengths and limitations

Whereas most studies on help and care to older parents have relied on small convenience samples, the current research benefited from access to a large, nationwide sample. Furthermore, employed detailed, multi-item measurements of help and care to parents, contrasting with the common use of single-item measurements. Multi-item measurements assessments not only provide detailed assessments, they also substantially reduce measurement errors associated with single-item measurements. Our multi-item measurement encompassed items on assisting with digital tasks online and managing administrative duties in contact with public services. This research also expanded upon previous research by examining differences across industry sectors, and we employed advanced statistical techniques.

Theoretically, assessing assistance to parents by the number of hours, rather than days, might have revealed a greater difference between daughters and sons in their efforts to assist older parents. For respondents, however, a questionnaire requesting information on days used is simpler to complete. One limitation, though, is our use of cross-sectional data. The present research shares this constraint with most research in the field; longitudinal data help in tracking trends over time and in testing alternative causal models. Also, like other surveys, we faced dropouts from the Gallup Panel invited to participate. However, the 42% response rate is comparatively high, and we applied sampling weights in our analyses to enhance the representativeness of the sample.

We would like to point out another limitation, common in survey research: employees from immigrant families were underrepresented in our dataset from the Gallup Panel in Norway. Yet, even if the Gallup Panel had included a larger number of participants with an immigrant background, Statistics Norway would not have been able to confirm whether their parents were still living – a key criterion for our sample selection.

5.4. Future research

Our findings suggest that women were more inclined to take leave than men when faced with the same number of days allocated to providing care for parents. A possible explanation could be that caregiving to parents was assessed by the number of days rather than the number of hours spent caregiving. Future research could investigate whether a more detailed measurement accounting for the hours invested in assisting the parent might uncover a greater contribution from women than from men, and thereby explain the slightly higher use of work absence when assisting parents.

The two most important limitations in the present research – the reliance on cross-sectional data and limited access to respondents with an immigrant background – can be challenging to address. However, some longitudinal studies employing panel data with repeated measures exist. Such longitudinal data collections typically rely on few items to measure assistance. Using multi-item measurements would increase measurement validity and allow for a more nuanced understanding of the varied forms of assistance to parents. Specifically, our findings on sick leave usage underscore the need for further research to explore how policies may be designed to bolster caregivers' ability to manage the dual responsibilities of caregiving and work, without resorting to unauthorized use of sick leave.

5.5. Conclusion

Caregiving to older parents has thus far not impacted work participation in Norway, but it does lead to work absence. As the population ages, more employees will need to take time off from work to provide care to older parents and both authorities and workplaces need to develop policies that facilitate the combination of full-time work and caregiving to older parents. The current use of sick leave to provide care to parents highlights the challenges caregiving employees face. We suggest the current leave scheme for parents with young children be adapted to include those who have older parents in substantial need of informal care.

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CRediT authorship contribution statement

Heidi Gautun: Conceptualization, Data curation, Funding acquisition, Investigation, Methodology, Project administration, Writing – review & editing. **Christopher Bratt:** Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Visualization, Writing –

review & editing.

Declaration of interest statement

There is no conflict of interest.

Data availability

The data will be available for download from Sikt.no

Appendix A. Supplementary material

Supplementary material to this article can be found online at https://doi.org/10.1016/j.socscimed.2024.116722.

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