Informal Eldercare and Work-Related Strain

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Objectives. In light of an aging workforce, reconciling informal eldercare and paid work becomes increasingly pertinent. This article investigates the association between informal eldercare and work-related strain and tests for both the “competing demands” and “expansion” hypotheses.

Method. The sample of 938 Austrian employees consisted of employees caring for older relatives and a control group of employees without eldercare obligations. We ran a Tobit regression model on work-related strain with different measures of informal eldercare as explanatory variables and controls for both personal and workplace characteristics.

Results. Accounting for different characteristics of eldercare within one estimation model revealed that informal eldercare was associated with work-related strain in 2 ways, that is, it increased with both care hours and subjective care burden. However, after controlling for these burdensome attributes of eldercare, the carer status as such was found to be negatively associated with work-related strain. In addition and independently of care commitments, work-related factors, such as advanced skills and job motivation, reduced work-related strain.

Discussion. This article lends support to both the “competing demands” and the “expansion” hypotheses. Commitment to eldercare can enhance work-related outcomes but entails work-related problems if care burden and time demands of eldercare are substantial. Thus, workers with eldercare responsibilities cannot be considered less productive from the outset. An individual assessment of their situation, considering the care and work setting, is required. Findings from this study support the design of workplace initiatives to uphold workers’ productivity in general and bring specific attention to policies alleviating workers’ eldercare burden.

Key Words: Family-to-work conflict—Informal eldercare—Strain—Workplace behavior.

In light of an aging workforce, reconciling informal eldercare and paid work becomes increasingly pertinent. Research on the nexus between unpaid care work and waged labor is framing the debate in terms of caregivers’ labor market participation rates (Crespo, 2006; Ettinger, 1996; Heitmüller, 2007; Henz, 2004, 2006), weekly work hours (Carmichael & Charles, 1998, 2003; Carmichael, Connell, Hulme, & Sheppard, 2004; Dautzenberg et al., 2000; RIS MRC CFAS et al., 1998), or forgone earnings (Bolin, Lindgren, & Lundborg, 2008; Carmichael & Charles, 2003; Heitmüller & Inglis, 2007; Meng, 2010). By contrast, research on workplace behavior, particularly on work performance of employees who combine gainful employment and eldercare, is still inconclusive.

This article contributes to the small body of knowledge on how informal eldercare affects workplace performance. Previous evidence has found informal eldercare to be predominantly negatively associated with workplace performance (e.g., Past, Williamson, & Keating, 1999; Hoskins, 1993; Lewis 1997). However, some research revealed some positive workplace-related effects of informal eldercare (e.g., Tarlow et al., 2004; Martire & Stephens, 2003). In general, most empirical evidence showed eldercare to be either negatively or positively related to workplace performance.

We studied the association between informal eldercare and work-related strain. To disentangle possible contradictory influences of informal eldercare on work-related outcomes, we aimed to single out specific eldercare characteristics that are negatively or positively associated with perceived work-related strain, controlling for a variety of workplace characteristics. This makes our article one of very few pieces of research on the work-related effects of informal eldercare that provides an in-depth analysis of both the care situation and the work environment. Insights into the influence of informal eldercare and workplace characteristics on work-related strain can help in identifying key factors facilitating reconciliation of informal eldercare with gainful employment.

Conceptualizing Informal Eldercare as a Source of Stress and Work-Related Strain

Classifying informal eldercare as a source of stress is a straightforward way to approach the effect of informal eldercare on work-related strain. There are several general lines of reasoning about stress and its effect, strain, which also apply to the work environment (Goldberg & Novack, 1992; Schuler, 1980). The earliest attempt at conceptualizing stress, the so-called engineering approach (Hall & Mansfield, 1971), identifies “stressors,” that is, external forces that “stress” a system or an individual, which may result in “strain,” that is, some kind of change (positive or negative) in the state of the system or the individual.
The most common consequences of stress are known to be detrimental. However, contemporary psychological research deals with stress as an emotion, allowing for differences in individual values and in the perception of situations (Lazarus, 1993). Depending on the individual situation and its subjective perception, a certain level of “stress [possibly] has its positive aspects” (Schuler, 1980, p. 188). Consequently, stress can take positive or negative effects.

The theories of the work-life interface, which explain negative and positive consequences of combining work and family responsibilities (for a recent literature review, see McMillan, Morris, & Atchley, 2011), provide a theoretical underpinning of effects of informal eldercare on another life domain, namely on work (performance). The negative side of engaging in different life domains is covered by “conflict theories” proposing negative spillover from one life domain to the other. By contrast, the “expansionist theories” highlight gains in one life domain and its interaction with other domains. According to McMillan and colleagues (2011), both strands of theories can be traced back to the 1960s and 1970s (cf. Goode, 1960; Sieber, 1974). In terms of empirical work, positive spillover and work enrichment have only recently attracted increased research scrutiny.

Against this theoretical backdrop and following Martire and Stephens (2003) in their review of literature on informal parent care and worker’s health, we framed our analysis of informal eldercare and work-related strain by drawing on two opposing hypotheses—the “competing demands hypothesis” and the “expansion hypothesis.” The “competing demands hypothesis” states that demands from multiple roles, such as gainful employment and informal eldercare, compete for a person’s time and energy. In line with this reasoning, the resulting role interference has adverse effects on work performance as is reflected in higher levels of work-related strain. Contrary to this perspective, the “expansion hypothesis” predicts positive work-related outcomes for informal caregivers due to the care-related experiences of competence, mastery, self-esteem, or social and material gains from holding various roles.

**Informal Eldercare and Work Performance: Evidence of Competing Demands and the Expansion of Skills**

The empirical evidence on the association between informal caregiving and workplace behavior is inconclusive. A number of studies find multiple demands of family caregiving and employment to function as stressors, which decrease psychological well-being (Cannuscio et al., 2004), psychological development (Marks, 1998), and emotional health (Lee, Walker, & Shoup, 2001). Pavalko and Henderson (2006) conclude that women who remain employed when facing a caregiving obligation typically suffer from elevated levels of distress. With an explicit focus on workers’ performance, a number of authors have detected a decrease in workplace productivity due to stress, overload, or to employees’ efforts to adjust to the demands of eldercare (Carmichael & Charles, 1998; Fast et al., 1999; Hoskins, 1993; Lewis, 1997; Pickard, 2004; Smith, 2004). Hepburn and Barling (1996) investigated the consequences of eldercare for employees’ levels of distraction at the workplace and problems in performing their duties adequately. Their analysis revealed a positive association between weekly care hours and the level of work-related difficulties. Absenteeism (Barling, MacEwen, Kelloway, & Higginbottom, 1994), turnover, and increased chance of workplace injury were investigated as well.

In contrast to this body of evidence, a sizeable portion of research points to positive associations between informal caregiving and workplace performance. An early proponent of this point is Scharlach, who stated that “In all, more caregivers assessed the overall impact on both roles [informal eldercare and gainful employment] as positive than as negative” (Scharlach, 1994, p. 382). In his work, he stressed gains in social competence and satisfaction due to the experience of being able to cope with a demanding situation. Even if not directly work related, generic positive effects, such as increased meaning of life, could also support coping with the demands at the workplace. In line with that, Tarlow and colleagues (2004, p. 446) noted that caregivers gain “a variety of positive and satisfying experience.” Noonan and Tennstedt (1996) list several possible gains in meaning due to caregiving, such as role satisfaction and personal growth. Brouwer, van Exel, van den Berg, van den Bos, and Koopmanschap (2005) analyzed a sample of Dutch caregivers. Their work showed that informal caregiving can contribute to total happiness, which the authors ascribe to the process utility of caring. Moreover, people develop various coping strategies (Jex, Bliese, Buzzell, & Primeau, 2001) and may even (over) compensate for negative experiences (Tedeschi & Calhoun, 2004). Among such coping strategies, time management skills and the ability to prioritize important tasks were found to be typical for employed informal caregivers in a qualitative study (Dawid, Ludescher, & Trukeschitz, 2008).

**Research Hypotheses**

The mixed empirical evidence obtained from previous literature could result from the fact that different characteristics of informal eldercare are related to stress in different ways, with varying effects on work-related strain. Drawing on the more general theories of work-life interface, Greenhaus and Beutell (1985) identified time-based conflict, strain-based conflict, and behavior-based conflict as stressors explaining negative outcomes of engaging in multiple roles. Positive work-life spillover could, for example, emanate from skill acquisition or positive attitudinal changes (Carlson, Kazmar, Wayne, & Grzywacz, 2006; Greenhaus & Powell, 2006). In order to reveal potentially countervailing influences of eldercare on caregivers’ work-related strain and to better understand the mechanisms through which spillovers occur, “informal eldercare” needs to be disentangled into singular dimensions.
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More specifically, in order to test for the “competing demands hypothesis,” caregiving to older persons will be measured in terms of resources (time and energy) lost for other activities. Time dedicated to informal eldercare captures the extent of the additional demand on caregivers’ time budgets, which might create time-based conflict. It also measures the level of effort devoted to informal caregiving, irrespective of its subjective perception as more or less burdensome. In line with the competing demands hypothesis, we thus hypothesize that if time spent on informal eldercare is related to work-related strain, then workers who dedicate more hours per week to informal eldercare will experience higher work-related strain (Hypothesis 1).

Psychological concepts of stress call for measures of care burden. Care burden indicates the personal strain caused by informal eldercare obligations. Contrary to time spent on informal eldercare, the care burden represents a subjective self-assessment of the personal consequences of the caregiving situation. In accordance with the “competing demands hypothesis” and the concept of strain-based conflict, we assume that a higher level of care-related burden will increase the stress level in other areas of life, for example, caregivers’ work lives, as well. Consequently, we hypothesize that if care burden is related to work-related strain, then workers perceiving a higher care burden will experience higher work-related strain (Hypothesis 2).

By contrast, the “expansion hypothesis” posits that intrinsic enjoyment of care provision and positive care–related experiences spillover to other areas of life. More specifically, it suggests that positive care–related experiences increase feelings of competence, mastery, or self-esteem and are conducive to skill development, which is in accordance with the concept of affective and instrumental enrichment gains as advanced by Greenhaus and Powell (2006) and Carlson and colleagues (2006). As the data do not contain direct measures of intrinsic enjoyment, positive experiences of informal eldercare provision, or care-related personal growth, we apply an indirect approach to capture these enriching effects of eldercare and their association with work-related strain. After accounting for burdensome characteristics of eldercare (time spent and care burden), it is assumed, all things being equal, that the carer status is left to reflect positive characteristics of informal eldercare as posited by the “expansion hypothesis,” and we therefore hypothesize that it will then be negatively associated with work-related strain (Hypothesis 3).

JOB CHARACTERISTICS AS IMPORTANT CONTROL VARIABLES

Apart from informal eldercare characteristics, a set of workplace characteristics is already known to substantially effect work-related strain. It is therefore essential to control for those job-related variables, which are conceptually and empirically well-established predictors of occupational stress. In what follows, we briefly explain the choice of this group of control variables, which relate to three prominent work-strain models.

To begin with, Siegrist and colleagues’ effort–reward imbalance (ERI) at work model explains work-related stress as an imbalance resulting from high work–related efforts spent in combination with low rewards received from the job (Siegrist et al., 2004). Working hours, as an example, measure quantitative work effort and monthly wages, job security and intrinsic job motivation can be considered as rewards received (Siegrist, 2008; Siegrist et al., 2004). Efforts and rewards are likely to vary by the type of occupation. According to van Veghel and colleagues’ review, there is strong empirical support for the ERI model (van Veghel, de Jonge, Bosma, & Schaufeli, 2005). In addition, Chang and Lu (2009) found the type of occupation to influence work-related strain, and Mohr (2000) highlights job insecurity as a potential stressor at the workplace.

Two other prominent models in the work-strain literature include the Demand–Control model of job stress (Karasek, 1979), which focuses on the balance between job demands and employees’ control over their tasks and work environment, and the Job–Demand–Control–Support model by Johnson and Hall (1988), which adds support at the workplace as important explanatory variable. According to these models, an imbalance of (high) job demands on the one hand and (low) job control (positions with reduced decision-making autonomy, low-skill jobs) or (low) support (e.g., coworker support) on the other, explain work-related strain. Again, a number of studies have tested these models. In their literature review, van der Doef and Maes (1999) conclude that there is substantial support for the strain hypothesis posited in both models but mixed evidence on the role of job control and social support. Given the prominent role of these models in the work-strain literature, we included control variables related to job effort/job demands, work-related rewards, and employees’ autonomy.

DATA AND METHODS

DATA REQUIREMENTS

In order to estimate the net effects of an informal eldercare obligation on work-related strain, data were required on caregiving and noncaregiving workers, providing information in detail on both workplace and caregiving characteristics. However, quantitative research on the interrelations between informal eldercare and gainful employment is hindered by considerable data limitations (Johnson & Lo Sasso, 2000). Among these limitations, the most well known are small sample sizes, scant detail on either work- or care-related variables, or a negligible share of employed informal caregivers in data not designed specifically for analyses of work and informal eldercare. Consequently, in-depth analyses of the consequences of eldercare on workplace behavior require data that overcome the shortcomings of available data sets.
Our data provide detailed information on both caregiving and workplace characteristics. They comprise a sample of employed informal caregivers and an approximately equally large control group of employees of same age and gender structure without any eldercare obligations. The total sample size amounts to 938 employees. The following section provides some detail on our sample design strategy and data collection.

Sample Design and Data Collection

We collected our data in two steps. Step 1 sought to collect information on informal caregivers who are employed or self-employed. Step 2 aimed at gathering data on employees without eldercare obligations. In order to reduce regional heterogeneity, sampling was restricted to a metropolitan area, in our case Vienna.

As Austria lacks a register of informal caregivers, we followed a proxy sampling procedure, which has also been used in previous caregiver studies (RIS MRC CFAS et al., 1998; Jacobi et al., 2003). A sample of federal long-term care allowance recipients aged 60 and older was identified based on social insurance records. This sample was stratified by age, gender, and the level of the long-term care allowance (which is related to care needs). Questionnaires were sent out to this group in spring 2008. The covering letter asked the addressees to hand the questionnaires over to their main informal caregiver, who was defined as the family member, neighbor, or friend in the care dependent’s social network, providing the largest share of informal help.

It is important to note that the choice of our proxy sample implied that our study sample would include informal carers providing care to older persons with substantial care needs. In Austria, eligibility for the federal long-term care allowance strictly depends on an applicant’s care needs, irrespective of income, assets, or age (Trukeschitz & Schneider, 2012). At the time of the survey, the long-term care allowance was granted to persons who required more than 50 hrs of care per month for a period of at least 6 months.

Of the questionnaires that were distributed, 21.4% were returned. Information about 3,036 informal caregivers (sociodemographics, health, recreation opportunities, care obligation, motivation to care, work engagement, work-related characteristics) and their care recipients (sociodemographics, care arrangement, level of care allowance, level and type of care needs) were collected. As in all proxy sampling strategies, where there is only very little information available about the population of interest, nonresponse analysis reaches its limits. The demographic characteristics of the long-term care recipients seemed plausible. (For details on the sampling process, see Schneider et al., 2009.) Just a small share of caregivers to older people was in gainful employment and could thus be included in the analysis. The subsample of employed informal caregivers consisted of 492 individuals.

In order to compare the sample of employed informal carers with employed noncarers, we conducted a control group survey of employed people without eldercare obligations based on social insurance records. The control group sample was designed to have about the same size as well as same age and gender structure as the sample of the employed informal caregivers. The comparison group survey was conducted only 6 weeks after the caregiver survey. It included a filter question to assure that these employees did not provide informal care to older persons. The sample of employed noncaregivers included in the analysis consists of 446 individuals.

Measures

Dependent variable: Self-assessed work-related strain.—The dependent variable in this model—self-assessed work-related strain—was measured using a 5-item 5-point scale of work-related strain indicators. Survey participants were asked to rate how often they had (a) been unable to finish their tasks on time, (b) made mistakes at tasks they can normally cope with easily, (c) been affected at work by pain or fatigue, (d) unusual problems coping with stressful situations, and (e) experienced situations to be stressful faster than usual during the last 3 working weeks. Answer categories were never (0), 1–2 times (1), 3–5 times (2), 6–8 times (3), and more often (4). These 5 items have been analyzed by means of factor analysis, where the first factor explained 58.8% of the items’ total variance. Furthermore, a Cronbach’s alpha of 0.814 indicates satisfactory internal consistency of this set of items. Therefore, instead of 5 items describing workplace strain, the factor score (regression method: range 0–1.778) was used as the dependent variable in the model, representing that linear combination of items explains most of their variance.

The resulting factor score was skewed to the right and left censored. This indicates that the instrument measures work-performance difficulties with a high level of precision if people feel heavily strained but provides less information on very low levels of strain. To resolve the issue of the positive skewing, we used the natural logarithm of the (appropriately shifted) factor score as the dependent variable in the analysis. Figure 1 shows a histogram of the resulting transformed factor score. The dependent variable is still left censored, inherited from a bottom effect created by the never-category of the original ratings. Left censoring was considered by using a Tobit regression model (Tobin, 1958).

Measures Related to Informal Eldercare.—The explanatory variables of primary interest relate to informal eldercare. According to our hypotheses, our model includes a measure of subjective care burden to account for a strain-based conflict, a variable capturing the time demands of eldercare to proxy time-based conflicts, and a dummy variable indicating the caregiver status expressing possible baseline differences between informal caregivers and people without caregiving
obligations. Thereby, time demands of eldercare and care burden are only present for informal caregivers.

The caregiver status variable is straightforward. The data contain employed informal caregivers who were identified as the major source of informal help in the dependent’s social network and who provide care to a frail older person with substantial care needs (more than 50 hrs of care per month).

Care burden was measured using a short, 4-item 5-point version of the Zarit Burden Interview (Bédard et al., 2001). This short version retains four questions from the longer Zarit Burden Interview about the frequency of caregivers’ feelings of (a) not having enough time for themselves because of caregiving, (b) stress because of conflicting care- and noncare-related commitments, (c) strain when being around the care-dependent relative, and (d) uncertainty about what to do about their relative. Because all four questions are clearly related to caregiving, it is plausible to assume that noncaregivers were not confronted with this specific type of burden at the time of the control group survey. Accordingly, the factor scores of the 4 items were calculated to represent people’s care burden, with noncaregivers’ values being fixed to the value which corresponded to the factor score of a carer denying any kind of care-related burden.

The third care-related variable in the model is the usual weekly number of hours dedicated to informal eldercare. Those with caregiving commitments to more than one older person were asked for the total number of weekly care hours they provide to all care recipients.

In addition, we controlled for the following caregiving characteristics: cohabitation, familial relationship between caregiver and care recipient, and types and number of (I) ADLs with which the caregiver provides support. These variables did not show any effect and were thus not included in the final model.

**Measures Related to Job Characteristics.**—The data provide detailed information on job characteristics. The following job-related control variables that relate to the ERI and job demand–control theories of work strain (see previously) were included in the model: work time, type of job, job motivation, work experience and workers’ work-related skills, and fear of job loss. Workload was measured by the logs of actual weekly working hours. To detect characteristics of the work regime, a dummy was included for the obligation to compensate for days absent by working longer hours. The type of occupation was captured by using an open text question. The answers were coded according to the Austrian version of the International Standard Classification of Occupations (ISCO) classification structure. ISCO organizes jobs into a set of groups according to the tasks and duties undertaken in the job. ISCO major groups, defined by the skill level, were used for the analysis. The category included in the model, ISCO2, indicates “professionals”—the group of highly qualified workers, which is compared with the group of all other workers. Jobs with higher skill demands come with a higher earnings potential (higher rewards), more control over one’s tasks and work environment but also with higher job demands.

Job motivation was elicited in the survey using 3 items, which were based on questions from the Utrecht Work Engagement Scale (UWES; Schaufeli, Bakker, & Salanova, 2006). Two other work-related items in the questionnaire related to employees’ time management skills and the ability to distinguish between important and less important tasks. Factor scores were calculated for these 5 work-related items, which loaded on two factors, namely “job motivation” and “skills at the job” (explained total variance amounts to 79.3%–48.4% for “job motivation” and 30.9% for “skills at the job,” Cronbach’s alpha is 0.786). Work
experience was measured by the number of years worked. Finally, we used a set of dummy variables from a 4-point indicator (often [1], sometimes [2], hardly ever [3], and never [4]) to control for fear of job loss.

Further workplace characteristics, such as the flexibility of work-time regulations, workers’ indispensability at the workplace, employees’ managerial responsibility, company size and industry, self-employment and workers’ monthly wages as well as coworker support, and the atmosphere at the workplace did not prove to be significant predictors of work-related strain and were thus not included in the final model.

**Personal characteristics.**—Self-assessed health was measured by a standard 5-point scale (very good [1], good [2], fair [3], poor [4], and very poor [5]; de Bruin, Picavet, & Nossikov, 1996) and transformed into a set of dummy variables. We also included employees’ gender.

The importance of recreation is stressed in the literature (Losada et al., 2010). Opportunities for recovering from daily duties (Ponoczy, Panholzer, Trukeschitz, Schneider, & Mühlmann, 2010) were assessed using dummy variables from a subjective 4-point indicator (How would you rate your opportunities for recreation?: sufficient [1], somewhat sufficient [2], somewhat insufficient [3], and insufficient [4]). This subjective indicator for recreation possibilities was chosen, as both reliable time estimates are difficult to obtain and the recreation value of a given time unit may vary considerably across different caregivers.

Workers’ age and education in years proved insignificant, as did household characteristics, such as the number and age group of children or cohabitation with a partner.

Table 1 briefly summarizes the key characteristics of our study sample.

**Estimation Model**

Since the dependent variable is left censored, the standard linear regression approach was not applicable in this case. Furthermore, the dependent variable is a factor score producing de facto continuous values, ruling out the usage of ordered logistic regression or similar regression models. Therefore, a multivariate Tobit regression model (Tobin, 1958) was estimated, this being the most common approach for censored, interval-scaled-dependent variables. Due to the censoring of the data, all respondents in the sample have the same lower limit of the possible range of their perceived level of work-related strain, which simplifies the estimation to the case described by McDonald and Moffitt (1980). The focus of this research is on the Tobit-model’s latent distribution, which represents an untruncated-dependent variable. Consequently, the regression’s beta coefficients do not need to be decomposed to obtain marginal effects but can instead be interpreted directly (McDonald & Moffitt, 1980).

In the corresponding empirical model, the independent variables can be grouped into a set of care-related measures—the variables of primary interest—as well as workplace characteristics and other control variables depicting other personal circumstances.

In our case, the stochastic model is represented by the following relationship:

\[ y_j = W_j \alpha + X_j \beta + Z_j \gamma + u_j \]

where \( n \) is the number of observations; \( y_j \) is the dependent variable (in our case, self-rated workplace strain); \( W_j \) is a vector of care-related variables; \( X_j \) is a vector of job characteristics; \( Z_j \) is a vector of personal characteristics; \( \alpha, \beta, \gamma \) are vectors of coefficients; and \( u_j \) is an independently distributed error term, assumed to be normal with zero mean and variance \( \sigma^2 \) (McDonald & Moffitt, 1980). To be consistent with these assumptions, all rating variables have been dummy coded. The final model is estimated on 938 complete cases.

We conducted a conditional moments test for the distributional properties of the residuals as well as tests for heteroscedasticity, multicollinearity, and functional misspecification. The measures of eldercare are correlated, but all variance inflation factors are deemed acceptable. In addition, we tested for personal response styles by fitting alternative models that controlled for potential proxies for confounding variables. These tests did not reveal any critical issues.

**Results**

Table 2 presents the Tobit estimates of the independent variables’ coefficients for the work-related strain indicator and fit statistics.

**Connections Between Informal Eldercare and Work-Related Strain**

All three measures of informal eldercare turned out to be significantly associated with the level of work-related strain. Both weekly hours spent on caring for an older relative and subjective care burden were significantly and positively related to perceived work-related strain. Care burden, a proxy for the emotional or psychological load caused by the eldercare situation, was much more strongly associated with work-related strain than the time requirements of caregiving. By contrast, the added caregiver identifier was negatively associated to work-related strain. This indicates that the remaining aspects of informal eldercare—those not picked up by care burden and time spent on eldercare—significantly reduced the level of perceived work-related strain. It should be noted that the significant caregiver dummy depicted an effect, which also had manifested itself in the raw data; people with a low amount of care hours reported having less work-related strain than those providing no eldercare at all, as measured by several work-related strain items.

Although the effect size of the carer identifier was quite substantial, a certain level of both the care burden and
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the time requirements of eldercare offset its beneficial effect on work-related strain. Linking these findings back to the data, we calculated expected values of the overall net impact of caregiving on work-related strain. For the majority (54.1% or 266 out of 492 informal carers), it can be expected that informal eldercare increases work-related strain. For the remaining 226 caregiving employees (45.9%), eldercare can be expected to reduce work-related strain below the expected net effect of employed noncarers. Based on median sample values, 22.7 care hours per week in combination with a care burden of 1.49 (which equals 62.6% of the care burden maximum in the sample) offset the beneficial effect of informal eldercare on work-related strain.

Table 1. Sample Characteristics

<table>
<thead>
<tr>
<th>Number of cases</th>
<th>Total (100.0%)</th>
<th>Employed carers (52.5%)</th>
<th>Employed noncarers (47.5%)</th>
</tr>
</thead>
</table>

Dependent variables

Work-related strain—Transformed factor score

<table>
<thead>
<tr>
<th>Mean</th>
<th>0.594</th>
<th>0.622</th>
<th>0.564</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum/maximum</td>
<td>0 / 1.778</td>
<td>0 / 1.778</td>
<td>0 / 1.778</td>
</tr>
</tbody>
</table>

Independent variables—In the model

Care-related variables

Care burden—Factor score

<table>
<thead>
<tr>
<th>Mean</th>
<th>0.003</th>
<th>0.782</th>
<th>−0.857</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum/maximum</td>
<td>−0.857/2.380</td>
<td>−0.857/2.380</td>
<td>−0.857/−0.857</td>
</tr>
</tbody>
</table>

Care hours per week

<table>
<thead>
<tr>
<th>Mean</th>
<th>10.7</th>
<th>20.4</th>
<th>0.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum/maximum</td>
<td>0/168</td>
<td>1/168</td>
<td>0/0</td>
</tr>
</tbody>
</table>

Work-related variables

Weekly working hours (logs)

<table>
<thead>
<tr>
<th>Mean</th>
<th>3.592</th>
<th>3.557</th>
<th>3.629</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum/maximum</td>
<td>1.099/4.564</td>
<td>1.099/4.564</td>
<td>1.792/4.382</td>
</tr>
</tbody>
</table>

Working longer hours to make up for days absent (1, 0)

<table>
<thead>
<tr>
<th>Mean</th>
<th>11.41%</th>
<th>12.20%</th>
<th>10.54%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional occupation (ISCO Major Group) (1, 0)</td>
<td>22.28%</td>
<td>18.90%</td>
<td>26.01%</td>
</tr>
</tbody>
</table>

Years working

<table>
<thead>
<tr>
<th>Mean</th>
<th>28</th>
<th>28</th>
<th>27</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum/maximum</td>
<td>1/58</td>
<td>1/58</td>
<td>1/48</td>
</tr>
</tbody>
</table>

Worried about job loss

| Never (reference category) (1, 0) | 61.83% | 65.85% | 57.40% |
| Hardly ever (1, 0) | 23.24% | 21.14% | 25.56% |
| Sometimes (1, 0) | 9.59% | 8.13% | 11.21% |
| More often (1, 0) | 5.33% | 4.88% | 5.83% |

Job motivation—Factor score

<table>
<thead>
<tr>
<th>Mean</th>
<th>−0.011</th>
<th>0.007</th>
<th>−0.031</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum/maximum</td>
<td>1.912/−3.661</td>
<td>1.912/−3.661</td>
<td>1.529/−3.553</td>
</tr>
</tbody>
</table>

Skills at the job—Factor score

<table>
<thead>
<tr>
<th>Mean</th>
<th>0.012</th>
<th>0.030</th>
<th>−0.007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum/maximum</td>
<td>1.668/−3.961</td>
<td>1.668/−3.961</td>
<td>1.562/−3.839</td>
</tr>
</tbody>
</table>

Personal variables

Gender (female) (1, 0)

<table>
<thead>
<tr>
<th>Mean</th>
<th>70.90%</th>
<th>69.11%</th>
<th>72.87%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>25.24%</td>
<td>20.33%</td>
<td>26.46%</td>
</tr>
<tr>
<td>Very good (1,0)</td>
<td>47.55%</td>
<td>45.12%</td>
<td>50.22%</td>
</tr>
<tr>
<td>Good (1,0)</td>
<td>24.09%</td>
<td>27.85%</td>
<td>19.96%</td>
</tr>
<tr>
<td>Fair (1,0)</td>
<td>5.12%</td>
<td>6.71%</td>
<td>3.36%</td>
</tr>
<tr>
<td>Bad or very bad (1,0)</td>
<td>39.77%</td>
<td>47.76%</td>
<td>30.94%</td>
</tr>
<tr>
<td>Recreation</td>
<td>35.29%</td>
<td>30.89%</td>
<td>40.13%</td>
</tr>
<tr>
<td>Somewhat sufficient/insufficient (reference category) (1,0)</td>
<td>24.95%</td>
<td>21.34%</td>
<td>28.92%</td>
</tr>
<tr>
<td>Somewhat sufficient (1,0)</td>
<td>24.95%</td>
<td>21.34%</td>
<td>28.92%</td>
</tr>
</tbody>
</table>

Independent variables—Not in the model

Age

<table>
<thead>
<tr>
<th>Mean</th>
<th>49.6</th>
<th>49.8</th>
<th>49.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum/maximum</td>
<td>20/75</td>
<td>20/75</td>
<td>21/71</td>
</tr>
</tbody>
</table>

Education (in years)

<table>
<thead>
<tr>
<th>Mean</th>
<th>13.0</th>
<th>12.8</th>
<th>13.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum/maximum</td>
<td>8/17</td>
<td>8/17</td>
<td>8/17</td>
</tr>
</tbody>
</table>
related strained than their healthier colleagues.

They are in line with previous research pointing to enriched role identities derived from caring. We found such positive effects of support received from others in difficult times, or satisfaction with the caregiving situation) are considered. As pointed out by McMillan and colleagues (2011, p. 11), it is indeed important to account for multiple dimensions of the conflict construct to better understand the mechanisms through which negative spillovers occur. Taking a closer look at burdensome characteristics of eldercare, that could be conducive to work-life conflicts, the results indicate that the subjective perception of care burden might be a stronger proxy for “competing demands” than weekly care hours. Behavioral-based conflict as a third potential source of work-life conflict according to Greenhaus and Beutell (1985) has not been addressed in our study, given a general lack of suitable measures in the empirical literature. Future research could investigate whether there are any specific patterns of behaviors in the sphere of informal eldercare that would be considered dysfunctional in the work environment and interfere with work-related outcomes.

The findings also substantiate the “expansion hypothesis,” which posits that eldercare responsibilities can generate benefits to caregivers that alleviate work-related strain and hence increase performance at work. Such positive attributes of informal care provision could include the intrinsic enjoyment of effort, the pride in being able to master care-related responsibilities and challenges, positive experiences of support received from others in difficult times, or satisfaction derived from caring. We found such positive effects once we controlled for the burdensome eldercare characteristics. The supporting results for the expansion hypothesis lend support to both hypotheses.

Consistent with the “competing demands hypothesis,” we found burdening attributes of eldercare to be associated with higher levels of work-related strain. This holds true regardless of whether weekly care hours, measuring the time spent on eldercare, or the Zarit care burden index (a subjective self-assessment of the personal consequences of the caregiving situation) are considered. As pointed out by McMillan and colleagues (2011, p. 10), it is indeed important to account for multiple dimensions of the conflict construct to better understand the mechanisms through which negative spillovers occur. Taking a closer look at burdensome characteristics of eldercare, that could be conducive to work-life conflicts, the results indicate that the subjective perception of care burden might be a stronger proxy for “competing demands” than weekly care hours. Behavioral-based conflict as a third potential source of work-life conflict according to Greenhaus and Beutell (1985) has not been addressed in our study, given a general lack of suitable measures in the empirical literature. Future research could investigate whether there are any specific patterns of behaviors in the sphere of informal eldercare that would be considered dysfunctional in the work environment and interfere with work-related outcomes.

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We thus conclude that positive eldercare experiences spillover to the workplace and result in beneficial experiences, in our case into perceptions of lower work-related strain. The results also highlight that both characteristics of eldercare and characteristics of the workplace matter when considering the implications of eldercare on workplace behavior. The results for the job-related controls are in line with the ERI model and findings from occupational stress literature relating to it. They also corroborate supportive evidence for the job demands–control model in the literature on occupational stress.

Taken together, this article is one of very few pieces of research that provides empirical evidence for the countervailing effects of eldercare on work-related outcomes within one estimation approach. The model explicitly separates the burdening attributes of eldercare into self-assessed care burden and time spent on providing care to the elder relative while also accounting for the positive eldercare effects. The results are well grounded in data, namely from a large sample of employees with eldercare responsibilities and a control group of noncaring employees.

However, being a fundamental limitation of every nonexperimental design, self-selection effects could have biased the results in two ways: by the self-selection of particular types of persons to become a carer at all and by the self-selection of people who responded to the questionnaire. In particular, the comparison between employees with and without eldercare responsibilities could be flawed, for example, if only workers with moderate working strain should choose to take over caring obligations or are willing to respond at all, or if employed caregivers in the sample have already reduced their working strain by cutting back their work hours. To shed more light on these problems, in-depth analyses should be carried out which lie beyond the scope of this study.

The Tobin regression model considered the effects of many independent variables. Yet, it can never be guaranteed that additional variables could be unbalanced but effective. As an example, one of the reviewers mentioned that merely providing information, set up referral and counseling services, or adjust work schedules and task profiles on a case-by-case basis to avoid conflict between care-related and work-related commitments. These efforts to alleviate the burden of informal eldercare are in the best interest of both employers and society at large. They enable middle-aged workers to maintain their work performance and are key to meeting the increasing demand for informal eldercare in aging societies.

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REFERENCES