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The depressive price of being a sandwich-generation caregiver: can organizations and managers help?

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ABSTRACT

Our study aimed to investigate for the first time, whether sandwich-generation caregivers, namely those who provide care to both their children and elders, are more likely to experience an increase in depressive symptoms over time, compared with employees who take care of children only, elders only, or who are not caregivers. We also examined whether resource loss in the form of a decrease in health status partially mediated this effect and whether organizational and managerial sources of support can attenuate these direct and indirect effects. Using a two-wave longitudinal design, we followed 1125 Israeli employees for 18 months on average. Controlling for multiple confounders, including indicators of care load and change in caregiving status, we found that sandwich-generation caregivers were indeed more likely to experience an increase in depressive symptoms, compared with all other caregiving statuses. We also found that compared to those who care for children only or to non-caregivers, the effect of SG caregiving was partially attributed to a decrease in health status and that the availability of family-supportive organizational practices and supervisor's emotional support attenuated the effect of caregiving on depressive symptoms, such that SG caregivers benefited more from these sources of support.

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Hundreds of millions of employees, across diverse cultures and geographical regions, serve as (typically unpaid) caregivers for their elderly relatives (Merck KGaA, 2017). Some employees carry a dual caregiving burden, caring not only for elders but also for their children, while simultaneously striving to accomplish their work goals. Employees who practice these dual caregiving roles are often called "sandwich-generation" (SG) caregivers, or multigenerational caregivers. SG caregivers constitute 8–28% of the working population in western countries (e.g. Boyczuk & Fletcher, 2016; Daatland et al., 2010). Their numbers are only expected to grow in the future, given the growth in life expectancy, the ageing of baby boomers, and the increasing tendency to postpone the beginning of parenthood (Boyczuk & Fletcher, 2016; Chassin et al., 2010; Hammer & Neal, 2008; Keene & Prokos, 2007).

Although any form of continuous caregiving may increase stress, mental fatigue, symptoms of anxiety, poor health, and depression (DePasquale et al., 2017; O'Brien, 2006; Revenson et al., 2016), SG caregivers may be especially vulnerable, as suggested by Boyczuk and Fletcher (2016), Do et al. (2014) and Hammer and Neal (2008). However, a closer examination of current studies of SG caregivers reveals three gaps.

First, as emphasized in a recent review (Zacher et al., 2017), it is unclear whether SG caregivers are indeed more susceptible to impaired physical and mental well-being compared with employees who are non-caregivers, caregivers of children only or caregivers of elders only. If SG caregivers are indeed more vulnerable, targeting them should be a priority for managers and HR practitioners. Surprisingly, most studies that explicitly considered SG caregivers compared these individuals

to all other employees as a group (e.g. DePasquale et al., 2017; Do et al., 2014; Keene & Prokos, 2007), or had several empirical limitations, which we will further discuss (Chassin et al., 2010; Sahibzada et al., 2005). Accordingly, in our study, we specifically compare SG caregivers to three other distinct groups: employees who are non-caregivers, caregivers of children only, or caregivers of elders only.

A second gap refers to the lack of clarity regarding the long term effects and mechanisms that tie SG caregiving with a deterioration in physical and mental health. This gap was emphasized in several reviews (e.g. Boyczuk & Fletcher, 2016; Do et al., 2014; Revenson et al., 2016). Indeed, except for a few studies (e.g. Hammer, Neal et al., 2005; Chassin et al., 2010; Neal & Hammer, 2009), most work-related studies of SG caregivers have implemented a cross-sectional design and ignored the dynamic nature of SG caregiving. We build on the principles of the Conservation of Resources theory (COR, Hobfoll, 1989), and specifically on the notion of "spirals of resource loss" (i.e. initial resource loss begets future loss, Hobfoll & Lilly, 1993), and suggest a mechanism of link. We argue that SG caregivers are more likely than other types of caregivers to experience a deterioration in physical health, and this deterioration mediates the effect of SG caregiving on the likelihood of experiencing an increase in depressive symptoms. We test this mechanism while accounting for multiple personal, contextual and occupational characteristics as well as for caregiving load indicators and changes in caregiving status overtime.

The third gap refers to the lack of clarity regarding the effectiveness of different sources of support on SG caregivers' well-being. Surprisingly, most studies on the favourable effects

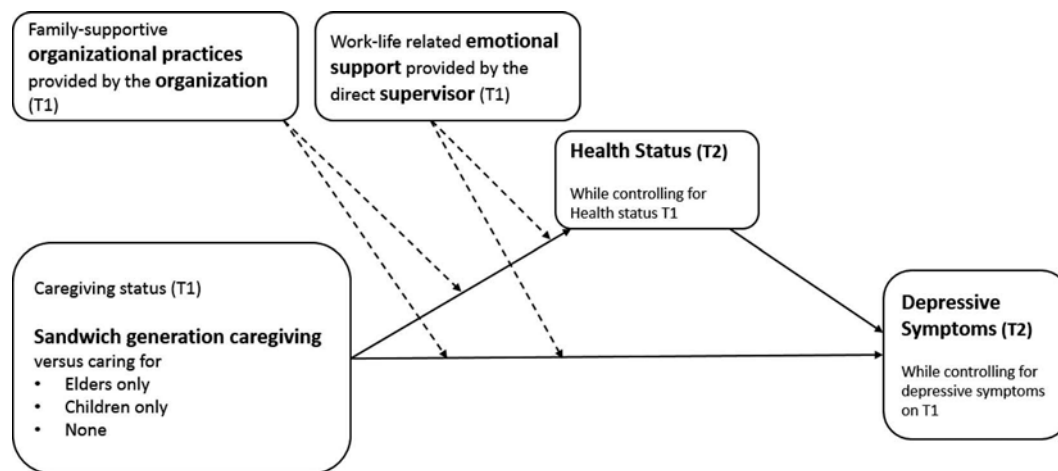


Figure 1. The theoretical model I. Dashed lines represent moderation effects.

of organizational or managerial support have focused either on employed parents or employed elder caregivers, whereas very few have studied SG caregivers as an independent group. The studies that did focus on SG caregivers have yielded mixed results (Chapman et al., 1994; Grandey et al., 2007; Hammer et al., 2005). Hence, should organizations prioritize SG caregivers when offering supportive family resources (instrumental or emotional)? We will suggest that the availability of organizational resources (supportive practices and supervisor's emotional support) serves as a resource reservoir that is most beneficial for those in need. In other words, we hypothesize that the availability of these resources may attenuate the effect of being an SG caregiver on the increase in depressive symptoms over time.

Figure 1 presents a schematic illustration of our research model.

Hypothesis development

SG caregiving and resource loss

Over the past two decades, numerous studies have investigated the role of family caregiving in the development of stress and strain (e.g. Hammer & Neal, 2008; Revenson et al., 2016). Although some caregivers find the role to be rewarding and meaningful (Hammer & Neal, 2008; Revenson et al., 2016), and even beneficial (Ingersoll-Dayton et al., 2001), in most cases, caregiving poses a significant burden on the caregiver. In line with COR theory (Hobfoll, 2011), we suggest that the inability to preserve, maintain, or extend SG caregivers' resources can eventually lead to continuous net resource depletion.

First, SG caregivers experience resource depletion due to the time investment involved in eldercare (e.g. Tooth et al., 2005), an investment they often perceive as an obligation and a burden (Pinquart & Sörensen, 2011). Elder caregiving is also a source of worry and anxiety, as elders' illnesses are often life-threatening (Pinquart & Sörensen, 2011; Revenson et al., 2016). Moreover, as the elder's needs can change with time, the caregiver faces ambiguity regarding the extent and magnitude of elder caregiving (Boyczuk & Fletcher, 2016). SG

caregivers also experience resource depletion that results from childcare, over and above the joyous experience of seeing them grow. Parents have to invest substantial time and energy, as well as to bear the high financial costs associated with child upbringing (Bianchi & Milkie, 2010; Cinamon et al., 2007). Notably, caring for young children also involves an extensive investment of resources such as time off work, lack of sleep, and paying for care providers (Cinamon et al., 2007). Caring for older children is also demanding and necessitates the investment of other resources such as social and academic support. Parents of adolescents also face an increased sense of separation from the child and a decline in the sense of intimacy (Nomaguchi, 2012), which negatively affects life satisfaction (Pollmann-Schult, 2014).

Over and above the need to face conflicting demands, SG caregivers are more likely than other caregivers to engage in "surface acting" and invest emotional resources in inhibiting their feelings. Specifically, caregivers tend to inhibit emotional expressions near ill family members (Shaw et al., 2003) as well as near their children (Lee et al., 2016; Yanchus et al., 2010), or spouses (Sanz-Vergel et al., 2012), finding it hard to recover mentally, even at home.

It is essential to acknowledge that not all SG caregivers are expected to experience caregiving homogeneously, as there is diversity in the magnitude of their home and work demands (e.g. the number of children, the severity of the elder's disease). However, the constant need to attend to numerous challenges may lead SG caregivers to feel "down" and lose their sense of pleasure, a salient symptom of depression.

Depression involves experiencing little interest or pleasure in doing things; feeling down, depressed or hopeless; feeling tired or having low energy; having poor appetite or overeating; having trouble concentrating, and in extreme cases, even experiencing suicidal thoughts (Kroenke et al., 2001). Once experienced, depression tends to be chronic and to substantially impair functional, emotional, social, and occupational abilities (Lerner & Henke, 2008; Toker & Biron, 2012). Thus, identifying employees at risk of developing depression, namely exhibiting an increase in depressive symptoms, is a priority for HR practitioners.

Are SG caregivers indeed more likely than caregivers of children or elders to experience an increase in depressive symptoms over time? To date, based on an extensive literature search, this question has not been answered yet. We do know that caregivers (irrespective of whom they care for) are more likely than non-caregivers to experience depression (for a meta-analysis, see Pinquart & Sörensen, 2003). However, it is unclear whether the dual role of SG caregivers increases the likelihood of developing such symptoms. The three studies that did pioneer in assessing depressive symptoms among SG caregivers were conducted among US couples, where one member of the family was defined as an SG caregiver. They were indeed the first to demonstrate spillover effects (Hammer, Cullen et al., 2005), gender differences (Hammer & Neal, 2008), and the effectiveness of coping strategies (Neal & Hammer, 2009) in the development of depressive symptoms among couples. Nevertheless, as they were interested in the dyadic effects or differences, rather than in the specific caregiver, they did not specify who is explicitly the SG caregiver, nor did they compare SG caregivers to other types of caregivers. Hence, we know of no study to date that has assessed the extent to which SG caregivers indeed differ from caregivers of either children or elders or non-caregivers, in their likelihood of developing symptoms of depression over time.

We do suspect, however, based on the premises of COR theory (Hobfoll, 2001), and based on the extensive resource loss that results from dual caregiving, that SG caregivers are at such mental risk. As emphasized by Hobfoll (2011, p. 362), COR theory raises attention to the process by which resources operate. An employee's inability to preserve, maintain or extend one's resources can eventually lead to continuous net resource depletion. Hobfoll (2011) also suggested that resource depletion may intensify with time when resource loss in one domain further exacerbates the depletion of resources in other domains, referring to this process as a "loss spiral". Supporting this dynamic approach, a study of 362 adults over ten years confirmed that life events trigger resource loss that eventually results in depressive symptoms (e.g. Holahan et al., 1999). However, what is the mechanism that links the loss of resources to depressive symptomatology?

Changes in health status as a possible underlying mechanism for the relationship between caregiving status and depressive symptoms

A significant resource that is crucial for resource preservation is one's health status (Hobfoll & Lilly, 1993). Health may be measured in numerous ways, yet subjective health perceived by an individual at a particular time-point has been shown to predict clinical morbidity and mortality over and above "objective" physiological indicators (Fayers & Sprangers, 2002; Jylhä, 2009).

If SG caregivers are overtaxed by their work and non-work demands, it seems likely that they will also lose their health resources, be aware of this loss, and consequently experience depressive symptoms. Indeed, a meta-analysis of informal caregivers has shown that their health is impaired (Pinquart & Sörensen, 2007). Similarly, studies of caregivers of elders only found that they tend to neglect their health (Boyczuk & Fletcher, 2016; Do et al., 2014) and engage in unhealthy behaviours (Chassin et al., 2010).

As physical health is a crucial resource, its' loss may trigger additional losses, including one's mental health. The strong association between physical and mental health has been the focus of numerous studies (for a review, see Prince et al., 2007). This association does not necessitate the official diagnosis of a disease, as poor self-rated health, has been shown to predict the occurrence of depressive symptoms (e.g. Ambresin et al., 2014). Taking these ideas together, we propose that the specific burden borne by SG caregivers makes them more likely than others to experience a spiral of resource loss, that is, to lose health-related resources and consequently to experience an increase in depressive symptoms.

Hypothesis 1: SG caregivers will experience a higher increase in depressive symptoms over time compared with employees who either care for children only, care for elders only, or do not provide care to others (H1a). This effect will be partially mediated by a higher decrease in self-rated health (H1b).

Supportive resources as moderators of the caregiving-depressive-symptoms association

If SG caregivers are indeed more likely to experience the loss of physical and mental resources, which factors can attenuate or accelerate this unfavourable process? Past studies have focused mainly on identifying moderators such as gender, ethnicity, income (e.g. Daatland et al., 2010; Do et al., 2014), or coping strategies such as focusing on the many goods that one has, or protecting time for activities (e.g. Neal & Hammer, 2017). Although these moderators are useful towards characterizing employees who are less likely to experience adverse outcomes as a result of SG caregiving, they do not shed light on the role that organizations and supervisors can play in attenuating the effect of multigenerational caregiving on employee's wellbeing.

To date, most organizations focus on the integration of work and childcare (e.g. on-site childcare centres, childcare information/referral services, paid maternity leave, Allen, 2001), and to a lesser extent offer eldercare relevant support such as flexible working hours, unpaid leave, subsidized caregiving services or adult day care facilities (e.g. Ireson et al., 2018; Katz et al., 2011). As these organizational resources are costly and limited, should they be allocated to SG caregivers first? Will SG caregivers benefit more from organizational and managerial support? COR theory predicts that "... resource loss is the principal ingredient in the stress process. Resource gain, in turn, is depicted as of increasing importance in the context of loss" (Hobfoll, 2011, p. 337). Hence, as we hypothesize that SG caregivers are more susceptible to resource loss, we also suggest that they may be more likely to identify and use the resources that are offered to them. In the present study, we focus on two such resources: Instrumental support offered by the organization and emotional support offered by the manager.

The moderating role of family-supportive organizational practices

Organizational support for caregivers can take many forms, many of which can be classified together as family-friendly-policies, also called "family-supportive practices." Such organizational practices enable employees to maintain a work-life

balance by offering flexibility in the timing and location of work, as well as the flexibility to take time off to take care of non-work responsibilities (e.g. Allen, 2001; Beauregard & Henry, 2009).

When an organization engages in family-supportive practices, it typically informs employees of such practices and of their right to benefit from them. Thus, even if an employee does not exercise that right regularly, he or she is likely to view family-supportive practices as a resource reservoir that can be utilized when needed and, as suggested by Neal and Hammer (2009), rely on the availability of these resources as a coping strategy. Indeed, studies of family-supportive practices have shown the favourable effects of the availability of these supportive practices independent of their utilization (e.g. Hill et al., 2004; Russell et al., 2009). In their review of sources of support for caregivers, Greaves et al. (2017), also emphasized the importance of resource-rich environments.

Notably, employees who care for elders (be they SG caregivers or caregivers of elders only) seem to be overlooked when it comes to supportive organizational practices. Seaward (1999) has long suggested that there is a wide range of family-supportive organizational benefits that organization can offer to SG caregivers, with some benefits bearing a high cost (e.g. leave of absence, paid time off), whereas others are less costly (e.g. flexible schedule within core hours). However, organizational policies that offer these particular benefits are still scarce in organizations (Keene & Prokos, 2007), and many employers are not even aware of them (e.g. Katz et al., 2011).

The few studies that explicitly assessed the moderating role of supportive organizational practices in SG caregiving outcomes produced mixed results. For example, Chapman et al. (1994) found a direct effect of flexible work hours on reduced absenteeism and perceived stress, but did not find an interaction between flexible work hours and the number of people the employee cares for in predicting these outcomes. In another study, family-supportive organizational practices interacted with caregiving status and with work-family culture in predicting job satisfaction. Contrary to initial expectations, the availability of workplace support predicted job satisfaction only when the work-family organizational culture was low rather than high, and specifically when comparing caregivers of elders only to non-caregivers. No such effect was found when comparing SG caregivers or caregivers of children only to non-caregivers. Please note that in their study, SG caregivers were not compared to other caregiving types as all caregivers (children, elders or both) were compared to non-caregivers only (Sahibzada et al., 2005). A third study focused on the number of family members an employee cares for (spousal, parental, and eldercare role), using them as a proxy of caregiving load (Grandey et al., 2007). This number did not interact with supportive organizational practices in predicting work-family conflict or job satisfaction, despite using multiple analysis strategies. Hence, the paucity of research does not allow us to draw clear conclusions regarding the moderating role of organizational support in the relationship between SG caregiving status and wellbeing (Greaves et al., 2017).

Still, we argue that such a moderation effect is probable, given the explicit needs of SG caregivers. According to

the second principle of COR theory (the resource investment principle): “People must invest resources in order to protect against resource loss, recover from losses, and gain resources” (Westman et al., 2004, p. 169). However, how can SG caregivers replenish their resources if they have to juggle their occupational and familial roles continuously? We argue that for SG caregivers, more than for other types of caregivers (who may have more flexibility to engage in resource-replenishing activities outside the workplace), the availability of family-supportive organizational practices may offer an opportunity to better coordinate time and energy expenditures when needed, and may consequently attenuate the spiral of resource loss, over and above any other type of caregiving. Hence we posit:

Hypothesis 2 a,b,c: The availability of Family-supportive organizational practices moderates the effect of SG caregiving on change in self-rated health and in depressive symptoms, such that the more family-supportive practices an organization offers at baseline, the weaker the association between SG caregiving and a decrease in self-rated health (H2a) and an increase in depressive symptoms (H2b) over time. Furthermore, the higher the availability of supportive practices, the weaker the partial mediating effect of health loss on the caregiving-depressive-symptoms association (H2c).

The moderating role of the supervisor’s perceived emotional support

All employees, regardless of caregiving status, have to meet the expectations of their supervisors and perform their work tasks. As discussed above, SG caregivers, who have to perform on at least three frontiers, may find it especially challenging to recover emotionally. In light of these emotional challenges, we suggest that SG caregivers may require not only instrumental support – such as that provided by family-supportive organizational practices, discussed above – but also emotional support. Indeed, in general, individuals’ wellbeing is substantially affected by their perceptions of the availability and adequacy of the emotional support that they receive from others (“perceived social support”; Thoits, 1986). Support not only affects employees’ sense of wellbeing but also has been shown to maintain health resources by contributing to reduced rates of morbidity and mortality (Holt-Lunstad et al., 2010; Uchino, 2006). Concerning caregivers, in particular, a meta-analysis of 176 studies has shown that informal caregivers who do not have social support suffer from more health problems compared with those who do (Pinquart & Sörensen, 2007). Hence, emotional support may act as a moderator of the caregiving-health loss association.

In work contexts, who can provide such support? A recent review of SG caregiving has highlighted the importance of assessing the moderating role of supervisor support, in addition to the role of supportive organizational practices, in relationships between SG caregiving status and various outcomes (Zacher et al., 2017, p. 143). Thus, we suggest that direct supervisors may serve as a critical source of emotional support in the workplace, and as such attenuate the extent to which these employees lose their physical and mental resources. First, we assume that by listening to their employees, supervisors can allow them to remove the occupational mask, at least briefly, and share their caregiving challenges,

as a means of venting and recovering. Indeed, Leadership models such as the Leader-Member Exchange model (Wayne et al., 1997) and the transformational leadership model (Bass, 2005) stress the importance of a leader's consideration of employees' needs. Second, supervisors who listen to their employees may also change employees' perceptions regarding the organization and specifically regarding resource loss (for a review, see Rhoades & Eisenberger, 2002). Conversely, the lack of such support may enhance the likelihood that an employee faced with stressors will experience adverse mental and psychological effects such as anxiety and depression (Cohen & Wills, 1985).

Accordingly, we propose that supervisor support is a key resource, that according to COR theory (Hobfoll, 2001), has the potential to attenuate the effects of SG caregiving on levels of depressive symptoms. This hypothesized effect is distinct from the buffering effects of family-supportive organizational practices, as it is driven by separate constructs—namely emotional rather than instrumental support. In evaluating employees' perceptions of supervisor support, we focus on employees' beliefs that their supervisor would be willing to provide sympathy, encouragement, and concern, listen to their personal and family problems, and acknowledge their efforts to balance work and family duties successfully. We do not assume that employees utilize this support daily, given the heterogeneity in caregiving experiences, but rather that this source of support is available to them, as part of their resource reservoir, and hence attenuates the spiral of loss that serves as a basis for hypothesis 1. Notably, a prior study on the association between work-family conflict and depression provides support for the notion that social support – and specifically, the support provided by co-workers – attenuates resource loss spirals (McTernan et al., 2016). We therefore posit:

Hypothesis 3 a,b,c: The availability of emotional support provided by the supervisor moderates the effect of SG caregiving on change in self-rated health and in depressive symptoms, such that the more supportive the manager is at baseline, the weaker the association between SG caregiving and a decrease in self-rated health (H3a) and an increase in depressive symptoms (H3b) over time. Furthermore, the more supportive the manager is, the weaker the partial mediating effect of health loss on the caregiving-depressive-symptoms association (H3c).

Method

Design and sample

Studying the effects of caregiving status on employees' well-being necessitates a large sample of middle-aged employees who can be followed for several months or years, and that is diverse enough to include all considered caregiving statuses (SG, elders only, children only or no caregiving). We used a large cohort of Israeli employees who met these criteria. The challenges of providing care to multiple generations are particularly prominent in Israel due to the high percentage of families with children under the age of 17 (47.2% of all Israeli households as of 2017, Israeli Central Bureau of Statistics). This percentage is considered high compared with other developed countries (e.g.

in the USA and Europe, Lavee & Katz, 2003). Individuals in Israel are also quite family-oriented, feeling higher responsibility for their elders compared with people in other developed countries (Lavee & Katz, 2003; Pines et al., 2011).

We held the study at a centre for routine health examinations in Israel. The centre's clientele includes apparently healthy employees from both the private and the public sectors, representing both white-collar and blue-collar occupations, who visit the centre every two to four years to undergo routine screening for cardiovascular risk factors. The diversity of the employees who attend the centre, in terms of the sectors and occupations in which they are employed, contributes to the study's external validity. The medical centre's and the authors' university's ethics committees approved the study's protocol. Participants were recruited by the study coordinator individually while awaiting their turn to be examined. All participants signed a written informed consent form. When participants returned for the second examination (T2), they underwent the same procedure upon their arrival and signed a second informed consent form. Participants' responses were matched based on their identification number. To reduce the risk of social desirability bias, confidentiality was assured, and neither the medical staff nor the employer had access to the collected data.

As we were interested in predicting changes in health status and depressive symptoms over time, rather than looking at cross-sectional data, we collected data in two waves (denoted T1 and T2, respectively). We collected T1 data over two years (2012–2013). For T1, we invited all employees who visited the centre to complete a survey while awaiting their turn for the medical examination. Initially, 3,443 employees agreed to participate in the study, representing 91% of the medical centre's visitors during this period. We collected T2 data between 2014 and 2016. During this period, 1,159 employees from our T1 sample returned for a second visit. Attrition between T1 and T2 resulted mainly from changes in employment, changes in fringe benefits or health-care providers, or from the fact that some employees returned for a second visit after 2016 (after data collection had ended). We do know that employees who returned for a second visit were slightly older, had higher socioeconomic status and were more likely to be male compared with those who did not return. As this group of employees is more likely to receive fringe benefits from an employer or to pay for their screening, this is not surprising. Attrition might also have resulted from a "healthy worker effect", where employees with better health are more likely to utilize health screenings, whereas those with impaired health may prefer to seek treatment in specialized health-care facilities. We did not find significant differences in self-rated health scores between those who returned ($M = 4.13$, $SD = 0.58$) and those who did not ($M = 4.09$, $SD = 0.60$, $t(3377) = -1.94$, $p = .053$). However, employees who did not return for a second visit had higher baseline levels of depressive symptoms ($M = 1.29$, $SD = 0.34$) compared with those who did return ($M = 1.24$, $SD = 0.30$, $t(3441) = -4.25$, $p < .001$). This indication for a healthy worker effect may have somewhat restricted our ability to identify changes in depressive symptoms. We further discuss this issue in the limitation section.

Final sample characteristics

Of the 1159 employees who returned for a second visit, we excluded 13 participants whose workplace changed during follow-up, as such change may have affected the availability of supportive organizational practices. We also excluded 21 participants who had incomplete surveys, resulting in a final sample of 1125 employees. In the final sample of 1125 employees, the mean time lag between T1 and T2 was 17.93 months ($SD = 7.33$). The sample included significantly more men (79.5%), and the mean age was 49.4 years ($SD = 8.3$). We note that a large number of males in our sample constitutes an advantage, as many studies focus on female caregivers only. Participants worked in a variety of professions (e.g. technical, engineering, medical, academic, security, administrative, and services professions) and most participants held white-collar positions (86.3%).

Measures

Caregiving status

Although the term “SG caregiver” can be defined in numerous ways, herein we use it to refer to employees who work full time while living in the same household with at least one child 18 years of age or younger, and simultaneously providing unpaid assistance on a routine basis, such as help around the house, health care, or personal care, to an adult family member in need (e.g. parents, spouse, siblings). Prior studies of employed SG caregivers have adopted similar definitions (e.g. Chassin et al., 2010; Pines et al., 2011). We have determined this status based on participants’ answers to the two following questions: (1) “Do you have children under the age of 18, living with you in the house?”, (2) “Do you take care of a sick family

member (parent, brother, spouse) (for example, escorting him/her to medical examinations, cooking, shopping, etc.)?”. Accordingly, we have categorized participants into four groups: ‘0’- SG caregiving (i.e. *caregivers of both children and elders*), ‘1’ *caregivers of children only*, ‘2’ *caregivers of elders only*, and ‘3’ *non-caregivers*. Across all analyses, we have used SG caregiving as a reference group, comparing it to the three other caregiving statuses. Among the participants, we defined 140 (12.4%) as SG caregivers, 94 (8.3%) were caregivers of elders only, 654 (58.1%) were caregivers of children only, and 237 (21.1%) did not provide care for elders or children. The characteristics of each group are elaborated in the “Results” section and in Table 1.

Caregiving status change (Used as a control variable)

We independently determined participants’ caregiving status at both T1 and T2. To account for the dynamic nature of caregiving, we have created a status-change-score with the following coding: ‘-1’ = caregiving load has decreased from T1 SG caregiving to T2 childcare only, T2 eldercare only or T2 non-caregiving, or from T1 childcare or T1 eldercare to T2 non-caregiving.; ‘0’ = caregiving status remained stable; ‘1’ caregiving load has increased from T1 non-caregiving to T2 childcare only, T2 eldercare only or T2 SG caregiving, or from T1 childcare only or T1 eldercare only, to T2 SG caregiving.

Caregiving load indicators (Used as control variables)

To address heterogeneity among caregivers, we controlled for five direct indicators of caregiving load; (1) Length of care for an elder (in years), (2) weekly hours of nursing elders (average over the past month), (3) hours of absence from work due to eldercare or childcare, during the last month, (4) parenting a toddler

Table 1. Descriptive statistics of all study variables.

	Caregiving Status					F(3,1121)/ t (df)	χ^2 (3,1125)
	Full sample N = 1125 Mean(SD)/%	No caregiving (n = 237)	Caring for children only (n = 654)	Caring for elders only (n = 94)	SG: Caring for children & elders (n = 140)		
Demographics							
Age	49.39 (8.32)	58.60 (5.77)	45.06 (6.12)	57.66 (4.77)	48.45 (5.66)	373.47***	
Socioeconomic status (1–10 scale)	7.80 (1.11)	7.86 (1.18)	7.78 (1.11)	7.89 (1.05)	7.72 (1.03)	0.752	
Time gap between visits (months)	17.93 (7.33)	16.45 (6.82)	18.54 (7.35)	17.12 (7.33)	18.08 (7.73)	5.22***	
Gender (% women)	20.5%	22.8%	17.1%	14.3%	22.9%		18.09***
Occupational characteristics							
Hours of work per day	9.85 (1.45)	9.66 (1.54)	9.94 (1.42)	9.67 (1.43)	9.86 (1.39)	2.75*	
Tenure (years)	15.38 (9.55)	21.84 (10.98)	12.45 (7.23)	20.42 (11.15)	14.76 (8.63)	79.19***	
Managerial position (% managers)	67.3%	68.8%	67.3%	71.3%	62.1%		2.60
Supervisor’s gender (% male supervisors)	82.8%	84.4%	83.6%	81.9%	76.4%		4.77
Blue/white collar job (% blue)	13.7%	11%	15%	13.8%	12.1%		2.67
Caregiving load							
Years of nursing elders	4.00 (4.96)	NA	NA	5.04 (5.52)	3.32 (4.43)	t(232) = 2.63**	
Weekly hours of nursing elders (past month)	2.63 (7.43)	NA	NA	1.59 (3.14)	3.33 (9.21)	t(232) = 2.05*	
Work absenteeism due to eldercare & childcare (hours, past month)	12.66 (13.92)	NA	NA	12.65 (16.36)	12.66 (12.08)	t(232) = .003	
Parenting a toddler (under 5 years) (%)	36%	NA	38.8%	NA	22.9%		12.78***
Having a partner (%)	90%	84.8%	92.2%	88.3%	90%		10.96*
Main variables							
Depression T1 (mean)	1.30 (.37)	1.29 (.39)	1.28 (.35)	1.33 (.40)	1.36 (.38)	1.82	
Depression T2 (mean)	1.29 (.37)	1.26 (.33)	1.28 (.37)	1.29 (.38)	1.38 (.43)	3.47*	
Self-rated health T1 (mean)	4.13 (.57)	4.09 (.57)	4.16 (.57)	4.06 (.56)	4.13 (.57)	1.30	
Self-rated health T2 (mean)	4.15 (.59)	4.14 (.60)	4.19 (.57)	4.00 (.60)	4.07 (.64)	4.02**	
Supportive org. practices (sum, 0–3)	1.94 (1.06)	1.88 (1.06)	1.96 (1.05)	1.83 (1.10)	1.99 (1.08)	0.76	
Supervisor’s emotional support (mean)	3.50 (.95)	3.62 (.98)	3.49 (.94)	3.52 (.93)	3.32 (.95)	2.95*	

Note. NA = Not applicable due to caregiving status; Depression = Depressive symptoms; Time gap = the time difference between T1 and T2 in months; Tenure = Tenure in the organization; * $p < .05$, ** $p < .01$, *** $p < .001$.

(five years old or younger), (5) married or living with a partner in the same household as an indicator of potential instrumental or emotional support (e.g. Chapman et al., 1994).

Depressive symptoms

Depressive symptoms were measured at T1 and T2, using the Personal Health Questionnaire (PHQ-9), the depression section of a patient-oriented self-administered instrument derived from the PRIME-MD (Kroenke et al., 2001). The original scale lists nine potential symptoms of depression (e.g. "Feeling tired or having little energy", "Poor appetite or overeating"), of which we used seven.¹ We asked participants to rate the frequency with which they had experienced each symptom during the previous two weeks on a scale from 1 (never) to 4 (almost always). Cronbach's alpha across the seven items was .79 for T1 and .82 for T2. To target changes in depressive symptoms, we used T2-depressive symptoms as the model's outcome while controlling for T1- depressive symptoms.

Family-supportive organizational practices

In accordance with the works of Allen (2001) and Thompson et al. (1999), we asked each participant to report at baseline (T1), using a binary (yes/no) response option, whether his or her organization offered any of the following family-supportive organizational practices, which were specifically relevant to our study: (1) "Flexibility in taking a leave of absence in order to handle household or family matters", (2) "Flexibility in taking an unpaid vacation" and (3) "Flexibility in taking a leave of absence in order to take care of a sick family member". As these practices are either offered or not offered to the employee, we did not expect the practices to correlate with each other but were rather interested in the number of different available supportive practices. We have therefore summed up the answers to the three items, such that scores ranged from 0–3, with higher values indicating a larger number of family-supportive organizational practices offered. For convenience of presentation, in what follows, we will use the terms "family-supportive organizational practices" and "supportive practices" interchangeably.

Supervisor emotional support

Our theoretical model distinguishes between supportive practices offered by an organization and the emotional support provided by the direct supervisor. To measure supervisor support, we used four items out of the 14-item Family-Supportive-Supervisor-Behaviours scale (FSSB, Hammer et al., 2009). We asked each participant at baseline (T1), to rate on a five-point Likert scale (1 = "strongly disagree" to 5 = "strongly agree") the degree to which he or she receives emotional support from his or her supervisor, using the following four items: "My supervisor is willing to listen to my problems in juggling work and non-work life", "My supervisor takes the time to learn about my personal needs", "My supervisor makes me feel comfortable talking to him or her about my conflicts between work and non-work" and "My supervisor and I can talk effectively to resolve conflicts between work and non-work issues". We calculated the mean score of all four items (Cronbach's alpha = .85).

Self-rated health

Self-rated health was assessed using a widely used single-item measure. At each time point (T1 and T2), participants were asked to assess their general health. Response options were: excellent (scale value = 5), very good, good, fair, or poor (scale value = 1). As elaborated in the introduction to this study, this measure is a valid indicator of current and future morbidity, as well as future mortality (for review, see Fayers & Sprangers, 2002; Jylhä, 2009). As we intended to target changes in health, we used T2-health as the model's mediator, while controlling for T1-health.

Work characteristics

Work characteristics (used as control variables)- occupational factors may affect employees' ability to address their family needs as well as to utilize work resources. We have therefore controlled for these five baseline direct indicators of occupational load and occupational resources; (1) *hours of work per day* as an objective indicator of the ability to juggle work and home demands; (2) *managerial position* and (3) *tenure*, two variables that may indicate the ability to control schedule and work hours, and that may, therefore, affect perceptions of support; (4) *job type* (blue collar vs. white collar) as an indicator of the ability to take leave or to utilize flex hours; (5) *supervisor's gender*, as it may affect employees' perceptions of the extent to which the supervisor provides emotional support (e.g. female supervisors may be perceived as more supportive).

Additional control variables

We also controlled for participants' baseline levels of (1) *socio-economic status*, in light of prior evidence linking socioeconomic status to outcomes associated with SG caregiving status (Do et al., 2014). It was measured using the subjective social status scale, with a single item, on a 10-point scale, in line with previous studies of socioeconomic status and health (e.g. Adler et al., 2000). (2) *age*, as it affects parental status as well as health; (3) *the time lag between T1 and T2* by calculating the delta (in months) between participants' first and second visits to the medical centre, as the ability to track changes in health is also subject to the time gap.

Additional measures that were collected but not used in this study

During employees' visits to the medical centre, their medical data were recorded, including anthropometric measures, blood tests, electrocardiogram measures, and visual and auditory functioning. As these variables were not the target of the present study, and as they are being used by another research team, we are not allowed to include them in the study.

Results

Descriptive statistics

Confirmatory factor analysis

We conducted confirmatory factor analysis using Mplus software in order to test the construct validity of the three main variables in our model: T1 depressive symptoms, T1 supportive practices, and T1 supervisor support. The results showed that the 3-factor measurement model, based on 16 indicators, provided a good fit to the current data, $\chi^2 = 379.42$, $p < .001$,

CFI = .94, RMSEA = .050. However, after removing two items of the depressive symptoms scale due to low factor loadings (as detailed above), the 3-factor measurement model fit improved and provided a better fit to the data $\chi^2 = 247.43$, $p < .001$, CFI = .96, RMSEA = .046. All items corresponding to the different variables in the model loaded on the relevant factors, and all but one of the standardized factor loadings were above 0.5. One item, which exhibited low loading on the supportive organizational practices scale is "Flexibility in taking a leave of absence in order to take care of a sick family member". As we did not assume high correlations between the supportive practices items but were rather interested in the sum of these practices, and as the three items scale better represents the construct (i.e. number of supportive practices) we have decided to keep this item and use the three-item scale. To assure the readers that this choice did not affect the results of this study we have repeated the analysis using the two items only and found out that results remained consistent.

Sample characteristics

Table 1 presents frequencies, means, and standard deviations of all study variables for the full sample ($N = 1125$) and each caregiving group. As elaborated in Table 1, we observed significant differences across the four groups in the frequencies or means of most of the variables, strengthening the need to control for these potential confounders in the analysis.

Correlation matrix

The correlations between all study variables are presented in Table 2. The current study is focused on the effect of being an SG caregiver on health and emotional outcomes. Therefore, in the correlations table, we compare between SG caregivers versus all other caregiving statuses as a group. Accordingly, the data presented in Table 2 do not serve to test our hypotheses directly, but they do indicate a general trend, with all correlations in the expected direction, though not all correlations reached significance levels. Being an SG caregiver at T1 (as opposed to holding any other caregiving status) was indeed associated with higher T2 depressive symptoms levels ($r = .09$, $p = .002$), but not with lower T2-self rated health levels ($r = -.05$, $p = .097$). As expected, T1 and T2 self-rated health and T1 and T2 depressive levels significantly correlated across the study duration (correlations ranged from $-.32$ to $-.36$, all p 's = .000).

Hypothesis testing

Analysis strategy

Hypothesis 1 stated that SG caregivers would be more likely to experience an increase in depressive symptoms compared with each of the other three caregiving statuses and that a decrease in health status will partially mediate this effect. To test this hypothesis we ran a simple mediation model (i.e. caregiving > health > depressive symptoms, PROCESS macro model 4, with 95% confidence intervals (CIs) created by 5,000 bootstrapped samples). Effects were considered significant if their respective 95% CIs did not include zero (e.g. Preacher & Hayes, 2008). To assess changes in health and depressive symptoms, we used T2-health as the mediator while controlling for T1 health, and T2- depressive symptoms as the outcome, while

controlling for T1- depressive symptoms (Twisk, 2013). As our independent variable was multicategorical (four caregiving statuses), we used version 3.3 of the PROCESS macro for SPSS, which allows for multicategorical predictors. Following the recommendations of Hayes and Preacher (2014), we used the indicator coding approach to code SG caregiving as "zero" (i.e. the reference group), and childcare, eldercare, and non-caregiving as "1", "2" and "3", respectively. This approach enabled us to compare the effect of SG caregiving on change in depressive symptoms, relative to each of the other three groups. As our list of potential confounders was quite extensive, we ran three models: In the first model we controlled for T1 depressive-symptoms and health status, time gap between measures, gender, age, socioeconomic status, and change in caregiving status. In the second model we have added the five work characteristics, and in the third model we have added the five indicators of caregiving load.

Hypotheses 2a,b, and 3a,b stated, respectively, that the association between SG caregiving and self-rated health, and between SG caregiving and depressive symptoms would be weakest, the higher the availability of family-supportive practices, or supervisor support. Hypotheses 2c and 3c stated that the mediation path specified in Hypothesis 1, would be weakest when organizational or supervisor support is high. We used the PROCESS macro with model 8 (Hayes, 2013). This model tests the moderating effect of supportive practices/supervisor support on the caregiving status-T2-health association, on the caregiving status-T2 depressive symptoms association, and on the indirect impact of caregiving status, through change in health status on T2-depressive symptoms. As in the simple mediation model, we coded caregiving status as a multicategorical predictor. PROCESS model 8 allows for the inclusion of one moderator at a time, therefore, we repeated the analysis twice: first, using supportive practices as a moderator while controlling for supervisor support (Table 3, columns A,B), and then using supervisor support as a moderator while controlling for supportive practices (Table 3, columns C,D). We repeated all analyses twice, once including the essential control variables only (Model 1 partial adjustment), and then including the full list of possible confounders (Model 2 full adjustment).

Testing hypothesis 1

Table 3 presents the results of the mediation analysis. The direct and indirect effects remained significant across the three models, namely when controlling for either the basic, intermediate or full list of possible confounders. We, therefore, present the results based on the full model that incorporates all possible confounders. Supporting Hypothesis 1a, we found that employees belonging to the three other caregiving statuses were less likely to experience an increase in depressive symptoms, compared with SG caregivers. (Model 3, direct effect, B 's = -0.08 , -0.09 , -0.10 , SE 's = 0.04 , 0.04 , 0.04 , p 's = .032, .023, .023; for children only, elders only or non-caregivers respectively, relative to SG caregivers). Please note that as SG caregiving was coded as "zero", it serves as the reference point. Hence, the rather small main effect of caregiving status in each of the three caregiving categories is, in fact, the mean difference in the outcome between the focal caregiving group and

Table 2. Correlations between study variables.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1 SG caregiver %																					
2 Depressive symptoms T2	0.09																				
3 Depressive symptoms T1	0.06	0.67																			
4 Self-rated health T2	-0.05	-0.36	-0.33																		
5 Self-rated health T1	0.01	-0.32	-0.34	0.62																	
Moderators																					
6 Org. practices (sum)	0.02	-0.08	-0.08	0.07	0.04																
7 Super. support (mean)	-0.07	-0.17	-0.17	0.12	0.16	0.17															
Employee' characteristics																					
8 Status changed (mean)	-0.47	-0.02	-0.04	0.01	-0.01	-0.02	0.00														
9 Time gap months	0.01	0.02	-0.01	-0.05	-0.01	0.13	0.01	0.00													
10 Gender (% woman)	0.02	0.15	0.18	-0.04	-0.07	0.01	-0.09	-0.02	-0.01												
11 Age	-0.04	-0.04	0.00	-0.06	-0.05	-0.01	0.08	-0.10	-0.19	0.01											
12 Socioeconomic status T1	-0.03	-0.16	-0.18	0.17	0.18	0.06	0.01	0.01	-0.01	-0.13	0.11										
Work characteristics																					
13 work hours day T1	0.00	-0.09	-0.13	0.03	0.04	0.06	-0.07	0.01	0.06	-0.28	-0.12	0.16									
14 Tenure (years)	-0.02	-0.04	0.01	-0.04	-0.05	0.15	0.05	-0.05	0.05	0.10	0.55	-0.03	-0.12								
15 Managerial position (%)	-0.04	-0.03	-0.06	0.08	0.04	0.04	-0.07	0.01	0.03	-0.09	0.04	0.23	0.27	0.05							
16 Manager's gender (% women)	0.06	0.11	0.15	-0.03	-0.07	0.03	0.02	-0.08	-0.01	0.29	-0.03	-0.10	-0.21	-0.02	-0.10						
17 Blue-collar job (%)	-0.02	-0.07	-0.07	0.03	0.05	0.16	-0.01	0.00	0.12	-0.11	-0.03	0.01	0.19	0.07	-0.11	-0.11					
Caregiving characteristics																					
18 Years of nursing elders	0.34	0.04	0.02	-0.07	-0.06	-0.03	-0.03	-0.22	-0.01	0.08	0.15	0.00	-0.01	0.11	0.00	0.02	0.00				
19 Caregiving absenteeism	0.41	0.04	0.07	-0.02	0.00	0.03	0.00	-0.35	0.04	0.08	0.02	-0.01	-0.04	0.04	-0.03	0.06	0.01	0.42			
20 Hours of nursing elders	0.30	0.02	0.08	-0.02	-0.02	0.04	0.00	-0.23	0.03	0.02	-0.01	-0.01	-0.01	0.02	-0.05	0.01	0.06	0.13	0.53		
21 Parenting a toddler (%)	-0.02	0.01	0.00	0.00	0.02	-0.01	-0.03	0.07	0.14	-0.07	-0.60	-0.08	0.06	-0.31	-0.05	-0.01	0.06	-0.11	-0.03	-0.01	
22 Living with a partner (%)	0.00	-0.04	-0.08	0.00	-0.01	-0.01	-0.01	-0.02	0.02	-0.15	-0.09	0.10	0.11	-0.06	0.05	-0.08	0.06	-0.11	0.02	0.02	0.13

$n = 1125$. Bold underlined numbers represent a significant correlation ($p < .05$); SG caregivers = Sandwich generation caregivers vs. all other caregiving statuses; Org. practices = sum of family-supportive organizational practices (0–3); Super. support = mean score of perceived emotional support provided by the supervisor; Status changed = Caregiving status change from T1 to T2 – (-1 = less caregiving, 0 = same caregiving, 1 = more caregiving). Time gap = the time difference between T1 and T2 in months; Tenure = Tenure in the organization; Hours of nursing elders = Weekly hours of nursing elders in the last month; Caregiving absenteeism = Hours absent due to nursing elders/children in the last month; Parenting a toddler = Is any of the children living in the house five years old or younger

Table 3. Regression analysis of the total, direct and indirect effect of SG caregiving on changes in depression symptoms, through changes in self-rated-health.

	Model 1					Model 2					Model 3				
	Total effect C	Direct effect C'	P. Stand. Indirect effect	95% Confidence Interval (CI)	Total effect C	Direct effect C'	P. Stand. Indirect effect	95% Confidence Interval (CI)	Total effect C	Direct effect C'	P. Stand. Indirect effect	95% Confidence Interval (CI)	Total effect C	Direct effect C'	P. Stand. Indirect effect
	B (SE)p	B (SE)p	B (BootSE)	LLCI ULCI	B (SE)p	B (SE)p	B (BootSE)	LLCI ULCI	B (SE)p	B (SE)p	B (BootSE)	LLCI ULCI	B (SE)p	B (SE)p	B (BootSE)
Childcare Versus SG caregiving	-0.08 (0.03)*	-0.07 (0.03)*	-0.03 (0.01)	-0.07 -0.01	-0.08 (0.03)**	-0.07 (0.03)*	-0.03 (0.01)	-0.06 -0.01	-0.09 (0.04)**	-0.08 (0.04)*	-0.05 (0.02)	-0.09 -0.02	-0.09 (0.04)**	-0.08 (0.04)*	-0.05 (0.02)
Eldercare Versus SG caregiving	-0.08 (0.04)*	-0.08 (0.04)*	0.00 (0.02)	-0.03 0.04	-0.08 (0.04)*	-0.08 (0.04)*	0.00 (0.02)	-0.03 0.04	-0.09 (0.04)*	-0.09 (0.04)*	0.00 (0.02)	-0.03 0.04	-0.09 (0.04)*	-0.09 (0.04)*	0.00 (0.02)
No caregiving Versus SG caregiving	-0.10 (0.04)**	-0.09 (0.04)*	-0.04 (0.02)	-0.07 -0.01	-0.10 (0.04)**	-0.09 (0.04)*	-0.04 (0.02)	-0.07 -0.01	-0.12 (0.04)**	-0.10 (0.04)*	-0.05 (0.02)	-0.10 -0.02	-0.12 (0.04)**	-0.10 (0.04)*	-0.05 (0.02)
T2 Health															
Model summary		-0.09 (0.02)**				-0.09 (0.02)**				-0.09 (0.02)**				-0.09 (0.02)**	
		R = 0.69, R ² = 0.48,				R = 0.70, R ² = 0.48,				R = 0.70, R ² = 0.49,				R = 0.70, R ² = 0.49,	
		F(11,113) = 94.48, p = .000				F(16,1108) = 65.33, p = .000				F(21,1103) = 50.02, p = .000				F(21,1103) = 50.02, p = .000	
Omnibus tests of the effect of X on Y:		Total effect = R ² -change = 0.004,				Total effect = R ² -change = 0.004,				Total effect = R ² -change = 0.005,				Total effect = R ² -change = 0.005,	
		F(3,1114) = 3.01, p = .029				F(3,1109) = 3.04, p = .028				F(3,1104) = 3.23, p = .022				F(3,1104) = 3.23, p = .022	
		Direct effect = R ² -change = 0.003,				Direct effect = R ² -change = 0.003,				Direct effect = R ² -change = 0.004,				Direct effect = R ² -change = 0.004,	
		F(3,1113) = 2.41, p = .065				F(3,1108) = 2.46, p = .061				F(3,1103) = 2.63, p = .049				F(3,1103) = 2.63, p = .049	

n = 1125, *p < .05, **p < .01. Bold underlined numbers represent a significant indirect effect (the confidence interval does not include zero).

P. Stand. Indirect effect = Partially standardized indirect effect of caregiving status on change in depressive symptoms levels.

LLCI = Lower levels confidence interval, ULCI = Upper levels confidence interval.

Model 1: Adjusted for T1 depressive symptoms, T1 health status, Time gap between T1 and T2, Gender, Age, Socio economic status, Caregiving status change.

Model 2: Adjusted for Model 1 + Work characteristics: Weekly work hours, tenure, managerial position, Direct manager's gender, Blue collar job.

Model 3: Adjusted for Models 1 + 2 + Caregiving characteristics: Years of nursing elders, Absenteeism due to caregiving, Hours of nursing elders, Parenting a toddler, Living with a partner.

Table 4. Regression analysis of the effect of SG caregiving on changes in depression, through changes in self-rated-health.

	Moderator: Supportive Practices						Moderator: Supervisor Support					
	Step A – Mediator DV = T2 health			Step B – Outcome DV = T2 Depression			Step C – Mediator DV = T2 health			Step D – Outcome DV = T2 Depression		
	B	SE	t	B	SE	t	B	SE	t	B	SE	t
Model 1- Partial Adjustment												
Caring for children only (Vs. Sandwich)	0.14**	0.05	2.73	–0.06*	0.03	–2.08	0.13*	0.05	2.58	–0.05	0.03	–1.64
Caring for elders only (Vs. Sandwich)	–0.01	0.07	–0.18	–0.08*	0.04	–2.19	–0.02	0.07	–0.33	–0.07	0.04	–1.75
Caring for none (Vs. Sandwich)	0.16*	0.06	2.51	–0.09*	0.04	–2.38	0.14*	0.06	2.31	–0.08*	0.04	–2.07
Supportive organizational practices	0.08*	0.04	2.13	–0.06**	0.02	–2.64	0.02	0.01	1.29	–0.00	0.01	–0.50
Children only * Supportive practices	–0.07	0.04	–1.82	0.06**	0.02	2.74						
Elders only * Supportive practices	–0.08	0.06	–1.34	0.04	0.03	1.07						
No caregiving * Supportive practices	–0.05	0.05	–1.17	0.06*	0.03	2.10						
Supervisor's emotional support	0.00	0.01	0.22	–0.01	0.01	–1.53	0.03	0.04	0.83	–0.07**	0.02	–3.05
Children only * Emotional support							–0.05	0.04	–1.01	0.06*	0.03	2.41
Elders only * Emotional support							–0.00	0.07	–0.02	0.05	0.04	1.24
No caregiving * Emotional support							–0.01	0.05	–0.29	0.08**	0.03	2.77
Self-rated health T2 (mediator)				–0.09**	0.02	–4.99				–0.09**	0.02	–5.09
Model 2 – Full Adjustment												
Caring for children only (Vs. Sandwich)	0.18**	0.06	3.01	–0.07*	0.04	–1.98	0.18**	0.06	2.91	–0.06	0.04	–1.62
Caring for elders only (Vs. Sandwich)	–0.01	0.07	–0.16	–0.09*	0.04	–2.32	–0.02	0.07	–0.28	–0.08	0.04	–1.94
Caring for none (Vs. Sandwich)	0.21**	0.07	2.93	–0.09*	0.04	–2.13	0.21**	0.07	2.80	–0.08	0.04	–1.88
Supportive organizational practices	0.07	0.04	1.82	–0.05*	0.02	–2.22	0.02	0.01	1.13	0.00	0.01	–0.09
Children only * Supportive practices	–0.06	0.04	–1.55	0.06*	0.02	2.44						
Elders only * Supportive practices	–0.07	0.06	–1.18	0.03	0.03	0.91						
No caregiving * Supportive practices	–0.04	0.05	–0.95	0.05	0.03	1.88						
Supervisor's emotional support	0.0	0.01	0.21	–0.01	0.01	1.44	0.03	0.04	0.81	–0.07 **	0.0	–2.86
Children only * Emotional support							–0.04	0.04	–0.97	0.06 *	0.03	2.23
Elders only * Emotional support							–0.01	0.07	–0.13	0.05	0.04	1.20
No caregiving * Emotional support							–0.01	0.05	–0.29	0.08 **	0.03	2.65
Self-rated health T2 (mediator)				–0.09**	0.02	–5.06				–0.09**	0.02	–5.13

n = 1125. *p < .05, **p < .01.

Model 1: Adjusted for T1 depressive symptoms, T1 health status, Time gap between T1 and T2, Gender, Age, Socio economic status, Caregiving status change.

Model 2: Adjusted for Model 1 + Work characteristics: Weekly work hours, tenure, managerial position, Direct manager's gender, Blue collar job + Caregiving characteristics: Years of nursing elders, Absenteeism due to caregiving, Hours of nursing elders, Parenting a toddler, Living with a partner.

Step A Model 1: R = .64; R² = .41; F(15,1109) = 51.48; p < .001; R² highest order interaction = .002; F(3,1109) = 1.16; p = .323.

Step A Model 2: R = .64; R² = .42; F(25,1099) = 31.28; p < .001; R² highest order interaction = .001; F(3,1099) = 0.86; p = .460.

Step B Model 1: R = .67; R² = .49; F(16,1108) = 66.05; p < .001; R² highest order interaction = .004; F(3,1108) = 2.67; p = .046.

Step B Model 2: R = .70; R² = .49; F(26,1098) = 40.89; p < .001; R² highest order interaction = .003; F(3,1098) = 2.14; p = .093.

Step C Model 1: R = .64; R² = .41; F(15,1109) = 51.29; p < .001; R² highest order interaction = .001; F(3,1109) = 0.59; p = .622.

Step C Model 2: R = .64; R² = .41; F(25,1099) = 31.20; p < .001; R² highest order interaction = .001; F(3,1099) = 0.48; p = .693.

Step D Model 1: R = .70; R² = .49; F(16,1108) = 66.07; p < .001; R² highest order interaction = .004; F(3,1108) = 2.72; p = .043.

Step D Model 2: R = .70; R² = .49; F(26,1098) = 40.96; p < .001; R² highest order interaction = .003; F(3,1098) = 2.43; p = .063.

the SG-caregiver group (i.e. a negative coefficient means that the focal group is less likely to experience a change in the outcome, compared with SG caregivers).

We also found partial support for hypothesis 1b. As expected, SG caregivers were more likely than caregivers of children only or non-caregivers to experience a decrease in the mediating variable, namely a decrease in health status (B's = 0.19, 0.22, SE's = 0.06, 0.07, p's = .002, .003; for children only, or non-caregivers respectively, relative to SG caregivers). As expected, T2 health status was also negatively associated with T2 depression (Table 3, Bs = 0.09, SEs = 0.02, p < 0.001 for all three models). We also identified the expected partial indirect effect of being an SG caregiver on health and consequently on depressive symptoms, when comparing those who care for children only, to SG caregivers (unstandardized indirect effect estimate = –0.05, SE = 0.02, 95% CI [–0.09, –0.02]), and when comparing non-caregivers to SG caregivers (unstandardized indirect effect estimate = –0.05, SE = 0.02, 95% CI [–0.10, –0.02]). In other words, relative to SG caregivers, in the child-care condition and in the non-care conditions, changes in depressive symptoms levels were 0.05 units lower, as a result

of the change in health that affected change in depressive symptoms. Again, this effect is significant, yet not very strong.

We did not observe, however, this indirect effect when comparing SG caregivers to those who cared for elders only (unstandardized indirect effect estimate = 0.004, SE = 0.02, 95% CI [–0.030, 0.037]), nor did we find a stronger effect of SG caregiving on a decrease in self-rated health compared to caregivers of elders only (B = –0.02, SE = 0.06, p = .779). Surprisingly, while examining the full list of potential confounders, we found that except for caregiving status, T1 depressive symptoms and T1 health status, none of the potential confounders had a significant total effect on changes in depressive symptoms, in all three models, with all significance values across the three models ranging from 0.097 to 0.879. Taken together, these results fully support Hypothesis 1a and provide partial support for Hypothesis 1b.

Testing the moderating effect of support on caregiving-health association (Hypotheses 2a and 3a)

As detailed in Table 4, the two sources of support did not moderate the association between caregiving status and health, either when controlling for the partial (Model 1) or the

full list of confounders (Model 2). Thus, supportive organizational practices and supervisor's emotional support did not moderate the caregiving-health association (Step A, Model 1: Interactions effect: $B_s = -0.07, -0.08, -0.05$, $SE_s = 0.04, 0.06, 0.05$, p 's = .070, .181, .244; Step C, Model 1: Interactions effect: $B_s = -0.05, -0.00, -0.01$, $SE_s = 0.04, 0.07, 0.05$, p 's = .312, .985, .771, for caregivers of children only, elders only or non-caregivers). Results for the fully adjusted model (Steps A & C, Model 2) were similar. Thus, we did not find empirical support for hypotheses 2a and 3a.

Testing the moderating effect of supportive organizational practices on caregiving-depression association (Hypothesis 2b)

As depicted in Table 4, Step B model 1, we found partial support for our hypothesis Supportive organizational practices interacted with caregiving status in predicting change in depressive symptoms when comparing SG caregivers to caregivers of children only (Interactions effect: $B = 0.06$, $SE = 0.02$, $p = .006$) and with non-caregivers (interaction effect: $B = 0.06$, $SE = 0.03$, $p = .036$), but not with elders (interaction effect: $B = 0.04$, $SE = 0.03$, $p = .286$). Repeating the analysis while adjusting for all possible confounders somewhat affected the significance level of this interaction. The moderation effect was significant when comparing SG caregivers to caregivers of children only (Interactions effect: $B = 0.06$, $SE = 0.02$, $p = .015$), but dropped from 0.036 to 0.060 when comparing SG caregivers to non-caregivers (Interactions effect: $B = 0.05$, $SE = 0.03$, $p = .060$). Again, when comparing SG caregivers to caregivers of elders only, the interaction effect was no significant (interaction effect: $B = 0.03$, $SE = 0.03$, $p = .360$).

We note that while the inclusion of all possible confounders in Model 2 was theoretically, but not empirically justified (none of the confounders had a significant effect on the outcomes), their inclusion affected the significance level of this interaction. The decision whether to rely on model 1 or model 2 when interpreting the results is therefore not definite, yet we present the simple slope analysis results for the SG-childcare comparison only as this effect was stable. We found that the higher the availability of organizational support the less likely are SG caregivers to experience a change in depressive symptoms compared with caregivers of children only, such that under low practices (−1sd) the effect was significant ($b = -0.13$, $se = 0.04$, $p = .003$), but under medium practices ($b = -0.07$, $se = 0.04$, $p = .062$), or high practices ($b = -0.01$, $se = 0.04$, $p = .834$), it was not. Hence, the results of this analysis provide only partial support for hypothesis 2b, suggesting that supportive organizational practices are more beneficial for SG caregivers, in terms of affecting depressive symptoms, when comparing them to caregivers of children only, and to some extent also to non-caregivers, but not when comparing them to caregivers of elders only.

Testing the moderating effect of managerial support on caregiving-depression association (Hypothesis 3b)

We also found partial support for the moderating effect of the supervisor's emotional support on the caregiving-depressive-symptoms association. As depicted in Step D model 1, supervisor support interacted with caregiving status in predicting

change in depressive symptoms when comparing SG caregivers to caregivers of children only (Interactions effect: $B = 0.06$, $SE = 0.03$, $p = .016$) and with non-caregivers (interaction effect: $B = 0.08$, $SE = 0.03$, $p = .006$), but not with elders (interaction effect: $B = 0.05$, $SE = 0.04$, $p = .216$). As depicted in Model 2 of Step B, results were consistent after the inclusion of the full list of control variables.

Simple slope analysis revealed that in line with our expectations, the more supportive the manager is perceived to be, the less likely are SG caregivers to experience a change in depressive symptoms compared with caregivers of children only, such that under low practices (−1sd) the effect was significant ($B = -0.12$, $SE = 0.04$, $p = .005$), but under medium practices ($B = -0.06$, $SE = 0.04$, $p = .106$), or high practices ($B = 0.00$, $SE = 0.05$, $p = .992$), it was not. Similar results were obtained when comparing SG caregivers to non-caregivers: under low practices (−1sd) the effect was significant ($B = -0.16$, $SE = 0.05$, $p = .002$), but under medium practices ($B = -0.08$, $SE = 0.04$, $p = .061$), or high practices ($B = -0.00$, $SE = 0.06$, $p = .968$), it was not.

Testing the moderated mediation hypothesis (H2c & H3c)

Using Model 8 of SPSS macro, we have tested the moderated mediation hypothesis, yet our analysis provided no evidence of a moderated-mediation effect of either supportive organizational practices or supervisor's emotional support on the caregiving > health > depressive symptoms association. All indexes of the moderated mediation analysis were very small, ranging from 0.001 to 0.006, and all confidence intervals included zero, ranging from −0.011 to 0.017. Hence, hypotheses 2c and 3c were not supported. Notably, the indirect effect of caregiving status on change in depressive symptoms remained unchanged when both sources of support (managerial and organizational) were added as control variables. Hence, the indirect effect of SG caregiving on changes in depressive symptoms remained significantly stronger when compared to caregivers of children only ($B = -0.02$, $SE = 0.01$, 95% CI = [−0.05, −0.01]) and when compared to non-caregivers ($B = -0.03$, $SE = 0.01$, 95% CI = [−0.06, −0.01]), but not compared to caregivers of elders only ($B = -0.01$, $SE = 0.02$, 95% CI = [−0.06, 0.04]).

Discussion

The present study is the first to explore whether being a caregiver of both children and elders while simultaneously being employed affects the likelihood of experiencing an increase in depressive symptoms over time. It is also the first to demonstrate the mediating role of a decrease in health status, in addition to the moderating role of organizational and managerial support. To assess the unique effect of being an SG caregiver, we had to compare these employees to other employed caregivers, namely caregivers of children only, elders only, or non-caregivers. We thus followed a large sample of 1125 employed Israeli men and women with various caregiving roles for 18 months on average. Some empirical strengths of the study include the longitudinal design which decreases common method bias and enables us to track changes in both health and depressive symptoms, the ability

to compare SG caregivers to other caregiving statuses, the large proportion of male caregivers in our sample that is rarely found in studies of caregivers and the inclusion of an extensive list of possible confounders, including changes in caregiving status over time.

Summary of results

We found out that irrespective of change in caregiving status, objective care-load, objective workload, age, gender, and other background characteristic, SG caregivers were indeed more likely than caregivers of children only, elders only or non-caregivers to experience an increase in depressive symptoms, although this effect was rather small. However, when examining the mechanism of link (i.e. the mediating effect), we found that the escalation of resource loss, namely the loss of health resources and consequently of mental resources is more substantial among SG caregivers compared to caregivers of children only or non-caregivers, but is not different from the resource loss that caregivers of elders experience. Similarly, SG caregivers benefit more from the availability of organizational or managerial support, compared with caregivers of children only or non-caregivers, but not when compared to caregivers of elders only. Interestingly, most results remained stable with and without the inclusion of an extensive list of possible confounders. In fact, none of the indicators of caregiving load significantly predicted changes in depressive symptoms. These non-significant effects suggest that it is not the intensity of the care or the number of daily work hours, but the dual caregiving itself that results in resource depletion.

Resource loss as an underlying mechanism

While caregiving status has been studied extensively and has been associated with depression, the mechanisms driving this association have remained unclear. To the best of our knowledge, this is the first study that not only ties a specific caregiving status with emotional resource loss but also demonstrates the ongoing spiral of resource loss (deterioration in one's health from T1 to T2), which is at the core of COR theory (Hobfoll, 1989), but has rarely been examined (Hobfoll, 2011). We note that by controlling for the caregiving load that preceded the study, namely hours and years of caregiving and absenteeism from work due to childcare or eldercare, we were actually able to tie initial time-related loss of resources, with future loss of physical and mental health resources. Hence, as emphasized in a recent review (Greaves et al., 2017), researchers are encouraged to consider indirect effects when studying the effects of SG caregiving on various outcomes.

In an attempt to understand how come SG caregivers were more likely to experience an increase in depressive symptoms compared to caregivers of elders, while the mediating effect (health loss) was similar, we identified two possible explanations. First, when comparing SG caregivers to caregivers of elders, we may have missed a different mechanism. In the introduction, we reviewed additional resources (not necessarily health-related) that may deplete with time among SG caregivers. Such resources, which were not measured in our study include the necessity to engage in "surface acting" and inhibit emotions near the child as well as the sick family member, the

loss of support from the older family member and the inability to experience recovery at home when the workday is over. Another possible explanation is that caring for children, can also be seen as a resource enhancing rather than resource-draining only. The joyous experience of seeing a child grow (e.g. taking its' first steps, completing elementary school, riding a bike) may spike parents' mood and positively affect one's happiness. Hence, the burden of caring for children may be somewhat attenuated by these daily uplifts. On the other hand, caring for elders only, relies mainly on caregivers' hope that the situation will get better, rather than on joyous experiences. Hence, future studies may consider these variables as possible mechanisms when comparing these two groups of caregivers. A second explanation suggests that caregivers of elders experienced the same depletion because they had more time to experience this escalation. As indicated in Table 1, caregivers of elders have been doing so for five years on average, whereas SG caregivers provided care for 3.3 years on average ($p < .01$). The length of elder caregiving was correlated with T1 health. Hence, caregivers of elders in our study were more likely to already experience a deterioration in health at baseline, and therefore, during the 18 months that passed, the health decline may have preceded and, similarly to SG caregivers, led to depressive symptoms.

We note that although objective indicators of health status could provide additional insights regarding the mediating mechanism proposed herein, our reliance on self-reported health status is justified. The single-item measure of self-rated health represents an overall assessment of one's health, whereas single objective measures of health (e.g. systolic blood pressure or glucose levels) are less conclusive. Indeed, as reviewed above, numerous studies have relied on this measure and confirmed its validity. To date, we are not aware of a single objective measure of health that captures one's health status and therefore, we argue that our choice of measure is adequate.

The importance of organizational and managerial support

While we are definitely not the first to investigate the beneficial role of organizational and managerial resources (for a review of research on support resources for caregivers, see Bohlmann & Zacher, 2019), we are the first to test two different sources of organizational support among SG caregivers: instrumental support (i.e. availability of family-supportive organizational practices) and emotional support (i.e. supervisor emotional support). In line with the predictions of COR theory (Hobfoll, 2001), the availability of these resources enables the employee the needed flexibility to use them when the caregiving load increases. As shown in previous studies, such resource replenishment may ultimately enable these employees to return to normal pre-depression and pre-stress functioning, even in the face of multiple work and family demands (Fritz & Sonnentag, 2005).

Over and above the favourable direct effect of supportive practices and supervisor's support on change in depressive symptoms, our results suggest that SG caregivers benefit from such resources more than caregivers of children only, do. As such,

it is crucial to raise the HR practitioners' and supervisors' awareness of the particular difficulties faced by employees who are SG caregivers, and the explicit contribution of supportive mechanisms embedded in organizational family-related policy. Indeed, past studies confirmed supervisors' role in enhancing employees' well-being (e.g. Anderson et al., 2002), as well as in helping them integrate work and family responsibilities (e.g. Cohen & Wills, 1985). However, as reviewed in the introduction, not all organizations and managers share this view: Despite managers' relatively high awareness of the negative implications of caregiving (e.g., leaving work early, arriving late, family leave, reduced performance) many fail to follow family-supportive organizational policies and are even opposed to such policies (Katz et al., 2011). Hence, it is essential to increase both employees' and organizations' awareness of the benefits of family-supportive organizational policies – particularly since, as our findings suggest, such policies can even benefit employees who do not utilize them. Supporting this argument, another study found that employees who perceive their organizations as being supportive of flexible work arrangements find it easier to extend work time without suffering from work-family imbalance (Hill et al., 2001). Similarly, Allen (2001) observed that that flexible work options enhance employees' sense of control over both work and non-work activities, thus lowering their strain. Our results provide additional support to the role of organizational sources of support, both instrumental and emotional, in reducing stress and depression levels (Mackie et al., 2001; Thomas & Ganster, 1995).

We did not find, however, a significant difference in the effect of these two sources of support, when comparing SG caregivers and caregivers of elders only. It is possible that these sources of support, play similar roles in the lives of caregivers of elders. As caring for elders (be they SG caregivers or caregivers of elders only) did not get the needed acknowledgement in most organizations (Allen, 2001), when caregivers of elders are finally offered with support (whether they utilize these resources or not), they feel more secure. Notably, we also did not find an indication for a moderated mediation effect. It is possible that once a spiral of resource loss has occurred, the deterioration in physical and mental health is not subject to organizational efforts.

Implications for research of caregivers

In the present study, we have attempted to overcome several empirical limitations of previous studies and thus to contribute both to SG caregiving research and to the general study of elder caregiving. First, we emphasized the need to differentiate between different types of caregivers. This distinction among groups is not merely semantic: Indeed, previous studies have already identified individual differences among caregivers of different status. For example, Chassin et al. (2010) found that SG caregivers are less likely than those who cared for parents only to engage in healthy behaviours such as regular exercise. Accordingly, when studying the implications of being a caregiver, it is important to compare across employees of different caregiving statuses and to drill down into the differences between these groups in terms of strain outcome, boundary conditions, and mechanisms of link. Indeed, Robison et al. (2009, pp. 788–789) observed that “caregiving per se does not

lead to symptoms of depression ... particular types of caregiver/care receiver role relationships relate to certain negative outcomes”. This observation seems to be supported by the mixed conclusions of prior research on the relationship between caregiving and depression, with some identifying an association between the two (O'Brien, 2006; Revenson et al., 2016) and others observing no relationship (Robison et al., 2009).

Future studies might build on our findings regarding the particular vulnerability of SG caregivers, and on the theoretical foundations, our analysis was based on, to carry out further comparisons and to identify additional vulnerable groups. Additional studies are also needed to identify different types of caregiving within the SG caregiving group. For example, do caregivers of siblings, parents, and spouses differ? Does it matter if the elder's disease is physical or mental? There is, in fact, no limit to the complexity of caregiving, and therefore different approaches can be implemented when choosing which groups to compare. However, we argue that organizations cannot take this heterogeneity into consideration when developing and implementing supportive policies. A simple classification of caregiving status may be easier in terms of identifying employees in need.

A second implication for research of caregivers concerns the choice of study participants. In the present study, we did not focus on a specific occupation, gender or the intensity of caregiving, but instead used a large sample representing a wide range of occupations, over a period of 18 months. This, of course, does not mean that our sample was optimal. Specifically, the percentage of SG caregivers and caregivers of elders was relatively low, the mean age was quite high (49 years old), and most of the participants were men. However, these characteristics allowed us to study the family-related challenges that middle-aged employees face rather than focusing on young parents as many studies of work-family do. We were also able to compare SG caregivers to non-caregivers, a population that is often excluded from work-family studies. The high percentage of men is also a strength of this study, as more studies focus on the consequences of caregiving among women. We believe that a more significant percentage of women in our study would have even strengthened the study's results, as women are more likely than men to suffer from the adverse effects of caregiving (Daatland et al., 2010). Taken together, the use of a large sample of working adults, not necessarily caregivers, allowed us to enhance our understanding of this unique group.

A third implication for research of caregivers concerns the dynamic nature of caregiving over and above the heterogeneity of caregivers; children get older, others are born, sick family members may heal, while others pass away. In the present study, we included a large set of possible confounding variables, including change in caregiving status, indicators of caregiving load (e.g. length of care for elders), contextual load (e.g. socioeconomic status) and occupational load (e.g. daily working hours). We would like to note, however, that our capacity to control for confounding variables was somewhat restricted by the need to limit the survey's length. Because participants completed the survey while awaiting their turn for a medical examination (in many cases having only 10–15 minutes to complete the survey), we had to keep

it very short. We thus did not include all caregiving status characteristics (e.g. whether they attended to elders at home or in a care institution, or how many family members they cared for, what specific disabilities they had, whether they had paid assistance or the severity of the elder's condition). Hence, the results of this study may actually represent an underestimate of the impact of SG caregiving on long-term well-being. Similarly, we did not collect data on the ages of all children but instead asked a yes/no question regarding whether the participant was caring for a child under the age of five. Hence, controlling for various possible confounders may also aid researchers in understanding why in some studies caregiving was associated with depression (O'Brien, 2006; Revenson et al., 2016), whereas in others it was not (Robison et al., 2009).

Study limitations

As discussed above, our sample of employees may have been subject to a "healthy worker effect", given the higher baseline levels of depressive symptoms among those who did not return for a second visit. However, if such bias exists, it implies that our results err on the conservative side and that a more representative sample would produce much stronger effects. This may explain the relatively small effects found in the present study. Another limitation is more cultural. As data were restricted to Israeli employees, future research might consider the influence of different cultural norms on SG caregiving, as well as the effects of differences in national organizational welfare and family-supportive policies (Hammer & Neal, 2008).

Additional potential limitations include the duration of the follow-up period (18 months on average), which may not have been sufficient to identify long term changes in one's health. Our ability to infer causality is also limited. We had only two points of measurement, and therefore changes in health and changes in depressive symptoms were measured simultaneously. However, as the notion of "loss spiral" reflects ongoing reciprocal relationships of resource loss, we may expect both mental and physical losses to keep intensifying each other over time, and therefore the direction of causality is less crucial in this case.

Our approach to assessing family-supportive-organizational-practices is also not free of limitations. First, we focused on only three common supportive practices; future studies may assess additional sources of support such as access to eldercare information centres, organized support groups for caregivers, or health insurance that includes eldercare support (e.g. Seaward, 1999). In addition, in our study, we assessed the availability of resources, but we do not know if employees actually utilized these resources. As presented above, Neal and Hammer (2017) developed a measure of caregivers' behavioural, emotional and cognitive coping strategies. Combining their measure with a measure of organizational practices may shed light on both the availability and utilization of needed resources.

Finally, the measurement of supervisor' emotional support was a subjective measure of participants' perceptions of other people's attitudes. As such, these reports may have been somewhat biased due to social desirability. Indeed, 70 percent of

employees rated their supervisors' support above 3 on a scale of 1 to 5 (i.e. they tended to report high levels of support), suggesting that a ceiling effect may have limited our ability to identify stronger moderating effects. Moreover, we assessed the managers' emotional rather than instrumental support. While we attempted to avoid possible overlap between our measures of support provided by the organization as a whole and support provided by the direct supervisor, future studies may include instrumental support as well, and use the full scale of the FSSB (Hammer et al., 2013). Last, but not least, supervisor support was measured at T1, and it is possible that participants' supervisors were replaced over the course of the study. Future studies might take steps to control for such change.

Implications for organizations and HR practitioners

Our findings suggest that individuals and organizations should increase awareness and take concrete measures to mitigate the potential negative outcomes of multigenerational caregiving. These steps can include increasing employees' control over their work schedules, thereby enabling them to accommodate challenging caregiving demands. Another option is to assist employees in enhancing their time management skills, which may aid SG caregivers in coping with stressful experiences and reducing symptoms of depression (Pinquart & Sörensen, 2003). Other measures may include re-evaluation and adjustment of corporate policies and management methods to promote family-supportive organizational practices. In addition, supervisors may assure employees that they can utilize the resources offered by the organization, or initiating formal organizational interventions and training programs aimed at enhancing work-life balance among SG caregivers.

Organizations can also encourage HR practitioners to assess and acknowledge employees' caregiving status and inform them of their rights. Interestingly, most family-supportive practices focus on childcare, and thus most information is relevant only to parents. For example, Allen (2001) describes a measure of organizational dependent-care support practices – but most practices included in this measure refer to childcare (e.g. on-site childcare centres, subsidized local childcare, childcare information/referral services, paid maternity leave, paid paternity leave), whereas no equivalent specifications are included regarding eldercare. Developing eldercare-supportive practices may be beneficial for both employees and their dependents. Such practices may include not only flexible time but also referrals to relevant information (e.g. employee rights, medical information call centres, etc.), and personal or group-psychological support. These resources may be provided directly by the organization or through referrals to external support groups for caregivers. Organizations may also be encouraged to routinely screen employees, and especially SG caregivers, for depressive symptoms. Another important factor is raising managers' awareness of the particular challenges that SG caregivers face. Indeed, as observed by Allen (2001), the degree to which a manager supports work-life balance practices affects employees' perceptions of organizational support as well as their attitudes towards the organization. Finally, a more concrete understanding of the benefits of family organizational support may enhance the willingness of organizations to provide such support in the future

(Hammer, et al., 2005). Hence, we hope that our findings encourage organizations and supervisors to be more aware of the emotional toll inflicted on employees who attempt to care for their elders, while simultaneously caring for their own children.

Note

1. The original scale list nine potential symptoms of depression. Based on confirmatory factor analysis two items of the depressive symptoms scale (PHQ-9) "Moving or speaking so slowly that other people might notice" and "Thoughts that you would be better off dead, or of hurting yourself" exhibited low loadings (0.343 and 0.206, respectively). We have therefore omitted these two items and used a seven-item scale to assess depressive symptoms (alpha Cronbach = 0.82).

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