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POSITIVE AND NEGATIVE CONSEQUENCES OF BALANCING PAID WORK AND INFORMAL FAMILY CARE: A SURVEY IN TWO DIFFERENT SECTORS.

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ABSTRACT: *In The Netherlands about 70% of informal caregivers combine their caregiving activities with paid employment, and thus have to manage the boundaries between work and family roles. Our cross-sectional study examined whether employed informal caregivers differ from non-caring colleagues with respect to negative and positive spillover effects, health and work-related outcomes, use of formal support arrangements and experiences with a supportive work environment. Participants were recruited from a large healthcare and a financial company. Quantitative data were collected by self-administered questionnaire. Highly statistically significant, bidirectional, differences were seen with respect to work-family conflict and enrichment, but only in the health care company. In both companies health-related outcomes were scored lower among employees with family caregiving tasks. Work-related outcomes and experiences of formal and informal organizational support and hindrance were evenly distributed. Integration of professional and informal caregiving roles might explain the bidirectional blurring of boundaries between work and family.*

KEYWORDS: Employment, Informal Caregiving, Role Integration, Spillover, Work-Family Conflict, Work-Family Enrichment

INTRODUCTION

Western health care systems are increasingly relying on the contribution of informal caregivers to meet care demands. It is anticipated that, as a result of the ageing of the population, the socialization of health care, and the higher thresholds for the allocation of professional care, the involvement of informal caregivers will increase in the coming years (De Boer et al., 2009; Gautun and Hagen, 2010; Lilly et al., 2010).

Informal care is generally defined as care provided by a family member or someone with a personal relationship, for a chronically ill, handicapped, or an in need partner, parent, child, or other family member or friend, without financial compensation (Lilly et al., 2010). In the Netherlands, informal care has to be given for at least three months in a row, or for at least 8 hours per week to be considered as informal care (De Boer et al., 2009).

Recent figures from The Netherlands show that more than 30% of all persons over fifty provide informal care, with a mean of 14 hours per week (Kasper et al., 2012), and that it is mainly provided by women (60%) (Van den Brink et al., 2013; Oudijk et al., 2010). About 70% of the informal caregivers combine their caregiving activities with paid employment (Oudijk et al., 2010). Van Kesteren (2009) estimates that nearly one in eight Dutch employees takes care of a partner, family member or friend. In other European countries (EQUALSOC study by Hessel and Keck (2009)) on average 6 percent of the employees have informal care responsibilities, ranging from about 1 percent in Luxembourg to more than 11 percent in Cyprus.

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Balancing between work and family responsibilities may be considered important as well as challenging for employed informal caregivers. Until recently, work-family research focused primarily on the potential deleterious spillover effects of combining work and family, underpinned by the so-called scarcity approach of multiple roles, also described as the role conflict- or the competing demands hypothesis (Kahn et al., 1964; Dautzenberg et al., 2000; Martine and Stephens, 2003). Work-family conflicts or, vice versa, family-work conflicts arise when role demands stemming from one domain (work or family) are incompatible with role demands stemming from the other domain (Greenhaus and Beutell, 1985). However, opposed to this, positive spillover effects may also occur in work-family interaction. In the study by Greenhaus and Powell (2006) the positive synergy between work and family, called work-family or family-work enrichment, is defined as the extent to which experiences in one role improves performance in the other role directly or indirectly through their influences on positive affect. According to Padhi and Patnaikk (2013) this trend of accentuating positive interdependencies between work and family is in tune with the emerging trend in psychology where the focus is on positive psychology.

However, evidence is still accumulating on the negative consequences of combining paid employment with informal caregiving, not only for the employees themselves but also for their employers. Employed informal caregivers appear to experience higher levels of stress, depression, emotional exhaustion, and mental and physical strain than employed non-caregivers (De Boer et al., 2009; Burton et al., 2004; Dautzenberg et al., 2000; Pavalko and Gong, 2005; Savla et al., 2008; Scharlach, 1994). Both Chappel and Reid (2002) and Farfan-Portet et al. (2009) reported a dose response relationship between time spent caring and health consequences in employed caregivers, with more weekly hours of caring being associated with an increased risk of poor health. A study by Kim et al. (2011) in a sample of employed caregivers showed that work interruptions due to informal care giving activities were related to poor work performance appraisal, indicating that work interruptions as a consequence of the caregiver role contribute to the employees' feeling that their paid work is inadequate. Other research shows that work interruptions are only one of the negative trade-off effects of employing informal caregivers. For example, McBride-King (1999) and De Vroome et al. (2010) listed an array of potential problems for employers related to the long-term informal care responsibilities of their employees, ranging from reduced productivity, presenteeism and absenteeism, a greater number of accidents to a large staff turnover. The systematic analysis of 58 studies by Lilly et al. (2007) showed that family caregiving is associated with reduced rates of labor market participation, both in terms of the ability to retain a job as well as in terms of the hours worked. A longitudinal Australian study on women's health (Berecki-Gisolf et al., 2008) showed that transition into informal caregiving of mid-aged women was associated with reduced participation in paid employment. Research from the US revealed that female caregivers who remained working decreased their working hours and also had lower wages compared to non-caregivers or working male caregivers (Van Houtven et al, 2013). On the other hand, there are also examples of positive outcomes of combining paid work with family care. In the qualitative study of Gysels and Higginson (2009) some of the interviewed employed caregivers used work as a coping strategy to deal with caring duties at home. Eldh and Carlsson (2011) found that combining eldercare with paid work led to a sense of satisfaction and thus supported a sense of life balance. Research on work-family enrichment in caregivers shows that employment can provide social support and respite to caregivers which in turn helps to diminish potential negative consequences of caregiving, especially social isolation, boredom, and role restriction (Reid et al., 2010). Potential benefits of work-family

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enrichment for employers involve a higher degree of job satisfaction and affective commitment, as was shown in the meta-analysis by McNall et al. (2010).

For employers dealing with employees with caregiving tasks at home it is essential to create and maintain a supportive work environment. For this, family-friendly work arrangements are important instruments. In the Netherlands a number of policies are available, for instance flexible working hours or (temporary) part time working arrangements, short term paid care leave, and long-term unpaid care leave. Although most of these family-friendly worksite arrangements were originally developed to provide respite to parents caring for their children (Cullen and Gareis, 2011), they are now also being advocated for support to employees providing unpaid care to someone close to them, but not necessarily living with them in the same house for instance in the case of eldercare. It is not clear if these childcare arrangements fit with the specific needs of informal caregivers or if they are actually used by them. Since self-identification as informal caregiver is noteworthy difficult, employed caregivers may not be aware that they are entitled to use official support measures offered by their employer. Moreover, employed informal caregivers may also escape from the attention of their supervisor or colleagues who can offer respite or informal support in specific circumstances. It is shown that if employers want to optimize work-home interaction, they should create an organizational work-home culture that is characterized by high support and low hindrance (Dikkers et al., 2007). Overall, both the provision of formal work policies and arrangements as the presence of informal workplace characteristics, such as supervisor and coworker support and a supportive work-family culture, are needed to guarantee and appropriate balance between work and family (Behson, 2005; Fine, 2012)

The aim of the present study was to examine whether employed informal caregivers differ from their non-caring colleagues on: a) negative and positive spillover effects between work and family and between family and work; b) important health and work-related outcomes and; c) their use of formal support arrangements and experiences with a supportive work environment.

We studied these aspects within two companies, a health care company and a company in the financial sector, representing respectively the (non-profit) public sector and the (profit) private sector. Dolcos and Daley (2009) illustrated the necessity to differentiate between these two sectors when studying work-family relationships by showing that public sector employees perceive significantly fewer negative career consequences related to the use of family-friendly policies, and also a stronger supervisor support than private sector employees. Earlier, in a Belgian survey, employees in the public sector reported less work-family conflict than private sector employees (Buelens and Van den Broeck, 2007).

METHODS

Participants of this cross-sectional comparison were recruited in two different companies: a large health care company (CC) providing intra- and extramural healthcare services to people of all ages, and a financial company (FC) delivering financial services in the field of insurances and pensions.

Data were collected by a self-administered digital questionnaire. All employees, including supervisors, of the two companies were invited by email to participate in the study. Those giving their consent were asked to complete the questionnaire in June 2011. Each employee

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was given access to the questionnaire through a personal digital code. In both organizations the study was approved by the participation council.

A collection of validated questionnaires was used to measure relevant outcome variables in the domains of work, health, and work-family balance. Also demographic and employment characteristics were included: age, gender, highest educational level, living situation at home, being the main wage earner at home, number of working years for this employer, contract hours, and mean hours of overtime per week.

Positive and negative spillover effects

To identify positive and negative spillover effects we used four interference scales developed by Geurts et al. (2005). For all scales, a higher score indicates a higher degree or level of the aspect being assessed. Work-family enrichment (WFE) was measured with 5 items (example item: "How often does it happen that you come home cheerfully after a successful day at work, positively affecting the atmosphere at home?"; Cronbach's α=0.75). Family-work-enrichment (FWE) was measured with 5 items (example item: "How often does it happen that after a nice weekend with partner/family/friends you enjoy doing your work?"; Cronbach's α= 0.81). Work-family conflict (WFC) was measured with 8 items (example item: "How often does it happen that your work schedule makes it difficult for you to fulfill your domestic obligations?"; Cronbach's α=0.84). Family-work-conflict (FWC) was measured with 4 items (example item: "How often does it happen that it is difficult to concentrate at work, because you are worrying about things in your private situation?'; Cronbach's α=0.75).

General health and work-related outcomes

As indicator for general health-related outcomes we focused on 'general physical health', 'general mental health', 'need for recovery' and 'emotional exhaustion'. Both general physical and general mental health were rated on a scale from 1 to 10. Recovery needs (11 items) was derived from the VBBA (Schaufeli and Van Dierendonck, 1993) (example item: "When I get home they need to leave me alone for a while"; Cronbach's α=0.87). Work-related emotional exhaustion was measured with the 5 item subscale of the UBOS (Dutch translation of the Maslach Burnout Inventory) validated by Schaufeli and Van Dierendonck (2000) (example item: "At the end of a working day I feel empty"; Cronbach's α=0.87).

The following work-related outcomes were included. Work ability measured by one item from the WAI (range 0-10): "What is your current work ability compared to the lifetime best?" (Ilmarinen, 2007). Job satisfaction was measured with one item (1 indicating 'extremely dissatisfied' to 10 indicating 'extremely satisfied'): "On the whole I am satisfied with my work" (Berkhout, 2000). For 'work motivation' we used 6 items from a scale developed by Warr et al. (1979) (example item: "I take pride in doing my job as well as I can").

To identify specific caregiving-related outcomes we included a separate set of questions exploring more some characteristics of the unpaid caregivers' experiences with combining work and informal care. Three single items were assessed on a Likert scale with ranges 1-5 ("ability to combine work and informal care") or 1-4 ("work interruption due to caregiving task" and "experienced problems due to sudden interruptions"). Two items inquired whether respectively the supervisor and the colleagues were informed about the caregiving activities ('yes', 'no'). Also, the validated scale Self Rated Burden of Caring (Van Exel et al., 2004) was included in this section, consisting of 1 item (0-10 point-scale): "Can you specify how heavy

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you are experiencing the informal care currently?" Obviously, these four questions were only offered to the employed informal caregivers of both companies.

Supportive work environment

To capture the way the work environment can be supportive for informal caregivers we made a distinction between formal and informal support arrangements.

In both organizations we asked a specialist from the Human Resources Department to make a list of the company formal policies, benefits and programs the companies offer to their employees to stimulate their work-life balance. The respondents were asked about their knowledge of these beneficial arrangements and to indicate whether or not they made use of it (0=no; 1=yes).

For measuring informal company support experienced by employees, we used the definition of organizational work-home culture by Thompson et al. (1999) formulated as "the shared assumptions, beliefs and values regarding the extent to which an organization supports and values the integration of employees' work and family lives" (p. 394). To measure these culture aspects we used the instrument developed by Dikkers et al. (2004), which is characterized by a two-dimensional structure, distinguishing between support and hindrance. The support dimension is based on three subscales: (a) organizational support (employees' perceptions of how family-supportive the organization is in general) assessed by 5 items (e.g., "In general, this company is considerate towards employees' private situation") (Cronbach's $\alpha = 0.85$), (b) supervisor support (employees' perceptions of how understanding the direct supervisor is of employees' desire to integrate work and private lives) assessed by 3 items (e.g., "My direct supervisor supports employees who want to switch to a less demanding job because of their private situation") (Cronbach's $\alpha = 0.82$), and (c) collegial support (employees' perceptions of how understanding the direct colleagues are of employees' desire to integrate work and private lives) assessed by 4 items (e.g., "My colleagues help me out if I am having a hard time coping with my caregiving situation") (Cronbach's $\alpha = 0.76$). The hindrance dimension was measured with two subscales: (a) career consequences (the perception of negative career development as a consequence of the uptake of WH arrangements) (4 items, e.g., "Employees who turn down a promotion because of private circumstances will suffer negative career consequences within this company"; Cronbach's $\alpha = 0.79$), and (b) organizational time demands (expectations that employees spend much time visibly at work) (3 items, e.g., "If necessary, employees within this company are expected to prioritize their work over their private situation"; Cronbach's $\alpha=0.85$). Answer alternatives ranged from 1 (totally disagree) to 5 (totally agree).

Above this, the informal caregiving employees themselves were asked whether they had informed their supervisor and colleagues about their caregiving tasks (response categories: 'yes', 'no') (see table 5 for the items). Finally, we questioned the supervisors' and colleagues' awareness and experiences with unpaid caregivers in their team with three items (response categories: 'yes', 'no').

Data analyses

All data were processed anonomously. For our analyses we used SPSS version 22 (2013). Per company three subgroups were formed based on unpaid caregiver status. One group consisted of employees without additional informal caregiving activities (i.e. the non-informal caregivers), another group concerned the employees with informal caregiving tasks for less than 8 (< 8) hours per week (i.e. the low intensity informal caregivers), and the third group

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included employees with eight or more (≥ 8) hours informal caregiving per week next to their paid job (i.e. the high intensity informal caregivers). The 8 hour cut-off point was chosen on the basis of the definition used in The Netherlands and published by The Netherlands Institute for Social Research (De Boer et al., 2003).

Since the response rates (28.3% for the CC vs. 47.8% for the FC) differed considerably between the two participating organizations all outcomes are presented and analyzed per company. Oneway ANOVA's and chi-square tests were used to test for differences in the demographic and employment characteristics between the three caregiver groups per company. Univariate ANCOVA's were calculated for work-home/home-work interference variables, general health and work-oriented outcomes and caregiving-oriented outcomes. For the CC we included age and working years in the analyses, and for the FC age and gender. In this study we used a statistical significance level of $p \leq 0.05$.

RESULTS

Participant characteristics

In table 1 an overview is given of important background variables, per company and caregiver status. The mean age varied between 42 and 48 in both companies, and, as expected, we observed marked gender differences, with a predominantly female workforce in the care company. Within both companies age differed significantly between the caregiver groups (CC: ANOVA $F=12.1$, $p\leq0.001$; FC: ANOVA $F=5.9$, $p\leq0.01$). In the FC, due to the higher percentage of women among the low intensity caregivers (81.8%), gender was not evenly distributed over the three groups (Pearson $\chi^2 =16.0$, $p\leq0.001$). In general, the highest achieved educational level was somewhat lower in the CC than in the FC, but in both companies the differences between the caregiver groups were not statistically significant. Also, the living situation varied somewhat between the caregiver groups per company, but not significantly. As expected, the employment characteristics reflected, in general, the criteria we set for choosing these companies, with a low percentage of main wage earners and full timers in the CC and an overall lower mean in contract hours. When tested for differences between the caregiver groups only in the CC a statistically significant difference was observed for the mean number of working years (ANOVA $F=5.5$, $p\leq0.01$).

- Table 1 here -

Positive and negative spillover effects

In table 2 outcomes of statistical analyses are presented for the four indicators of work–family interference. Concerning the CC, the mean scores on all four scales measuring indicators of work-family interference were statistically significantly different in the three caregiving groups. Interestingly, both the enrichment indicators as well as the two indicators of conflict were highest in the high intensity informal caregiver group. No significant differences were seen in the FC.

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- Table 2 here –

General health and work-related outcomes

In table 3 outcomes of statistical analyses are presented for the indicators of general health-, work-and caregiving-related outcomes. We observed significant differences for general mental health, 'need for recovery' and 'emotional exhaustion' in the CC, with the most unfavorable scores in the high intensity informal caregiving group. In the FC only general physical health was scored significantly lower in the high intensity caregiver group. In both companies there were no differences between the groups with respect to work-related outcomes.

Concerning the specific caregiving-related outcomes we observed in the CC significantly higher self-rated burden and lower ratings of the ability to combine work and informal caregiving among those providing at least 8 hours of informal care per week. Although the high intensity care group experienced the most work problems due to sudden interruptions caused by caregiving tasks, they reported less work interruptions compared to low intensity caregivers. In the FC the self-rated burden of caregiving was the only statistically significant outcome, with a higher mean score in the high intensity informal caregiving group.

- Table 3 here -

Supportive work environment

In both companies the majority of employees report the use of at least one of the formal support policies, with part time work and flexible hours ranking highest (table 4). In de CC those in the high intensity caregiver group make relatively more use of all the distinct arrangements, except for long term care leave, than those in the other two groups. In the FC the low intensity group is making more use of part time work or flexible work arrangements, while the high intensity group scores highest with respect to short term and long term care leave.

With respect to informal support from the organization, the supervisor or the colleagues, no significant differences are seen between the caregiver groups, both in the CC as well as in the FC. Time demands and career consequences are perceived fairly equally distributed over the groups.

Furthermore, in table 5 we present per informal caregiver group whether they notified their supervisor or colleagues of their caregiving activities. As can be seen, a relatively large proportion of caregivers do not inform their employer or colleagues of their informal caregiving tasks, with many of them not feeling the need to discuss this topic. The FC high intensity caregivers inform their colleagues more often than the low intensity caregivers do. On the other hand, while the supervisors and colleagues were nearly all familiar with the concept of informal caregiving, not all were aware of informal caregivers in their team, not all discussed this topic with their caregiving employees/colleagues or felt they could offer adequate support measures.

- Table 4 and Table 5 here -

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DISCUSSION

The current study focusses on experiences concerning work- and work-home (or home-work) related issues in three different employee groups within a health care company and a financial company. The first group consists of employees who did not provide informal care in their home situation. The second group consists of those employees who gave informal care to a loved one for less than 8 hours per week (i.e. the low intensity informal caregivers) and the third group concerned those employees with eight or more hours informal caregiving per week (i.e. the high intensity informal caregivers).

Overall, we observe marked statistically significant differences in outcomes between the three caregiver groups in the CC, but not so in the FC. Possibly the groups of informal caregivers in the FC were not large enough to study these outcomes.

In the CC all measurements on work-family conflict and enrichment show significant differences between the three groups, with the highest outcomes among those in the highest caregiver category. These findings indicate that high intensity caregivers experienced more positive (i.e. enrichment) and at the same time more negative (i.e. conflict) spillover effects in work-family and family-work interactions compared to both other groups. In the FC the levels of these aspects were quite evenly distributed over the comparison groups. In accordance with the findings of Greenhaus and Powell (2006) we have shown for the CC that the two mean enrichment scores were higher than both mean conflict scores, that family-to-work enrichment was substantially higher than work-to-family enrichment, but also that the highest conflict scores were reported in the highest informal caregiving group. In the FC, both family-to-work enrichment scores were also highest among informal caregivers, and also both the conflict scores, but not all in the high intensity caregiving group. Neither of these differences reached significance, possibly due to the low percentage of informal caregivers among the participants from the FC.

Furthermore, we noticed on all four health-related outcomes the same tendency in both companies, showing the most unfavorable scores for the high intensity caregivers. In both companies this group experienced the poorest mental and physical health and the most need for recovery after a day of work, combined with the most extensive feelings of emotional exhaustion. However, for the CC three out of four health outcomes were statistically significant, whereas for the FC this test result was only observed for general physical health.

Concerning the caregiving-related outcomes, i.e. the consequences of the informal caregiving responsibilities, obviously measured only in both low and high intensity caregiver groups, we again observed the same trends in scores in both companies, and again the differences between the high and low intensity group were all statistically significant in the CC and only one was in the FC. In both companies the high intensity caregivers experienced the most self-rated burden of informal caring and were less able to combine work with their unpaid care activities. Furthermore, they reported less work interruptions due to their caregiving tasks, whereas the problems with these sudden interruptions were experienced as more extensive. In both companies there was not much difference between the three groups of employees in the work-related outcomes (work ability, job satisfaction and work motivation) and in the experiences of informal support or hindrance, i.e. the organizational culture aspects, or in the use of formal support arrangements. However, in both companies a reasonable large proportion of caregivers did not inform their employer or colleagues of their informal caregiving tasks. And although

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nearly all supervisors and colleagues were familiar with the concept of informal caregiving, not all were aware of the presence of informal caregivers in their team.

The most striking observation in our study is that especially the high intensity caregivers in the CC experienced at one and the same time the most work-family and family-work conflict as well as the most work-family and family-work enrichment, thus lending support to the conceptualization by Powell and Greenhaus (2006) that both constructs are not opposite ends of a continuum but have to be regarded as two independent unrelated constructs. Since our study did not reveal any marked differences in corporate work-home culture or the use of support arrangements between the three groups in the two participating organizations, these spillover effects may be attributed to other characteristics of these two organizations. Moreover, the observation in the CC that the spillover was bidirectional, from work-to-family as well as from family-to-work, is suggestive of blurring of boundaries. The role boundary theory, as originally developed by Nippert-Eng (1996), implies that individuals generally prefer to either segment or integrate their work and family roles (Kossek and Lautsch, 2012; Allen et al., 2014). This means that certain people are, and other people are not, actively separating aspects of their work and home domains and arrange their lives in such a way that aspects of one field do not interfere with the other and important events in the one field, such as taking care of a relative or loved one, and thus do not influence their experiences and performance in the other. According to Powell and Greenhaus (2006) role segmentation may diminish the expanse of both conflict and enrichment, whereas role integration increases the likelihood of both conflict and enrichment. It is less likely that the very high proportion of women in the CC explains the differences between the two companies. Findings of Bulger et al. (2007) showed that women in their role boundary management have a stronger tendency for segmentation than for integration of work and family domains. Other research suggests that a preference for either segmentation or integration of work and family roles is, apart from gender, partially determined by family demands (Kossek et al., 1999). We presume that the FC employees generally are more able to actively separate their work and family roles, while the CC employees may have work roles with more permeable boundaries, allowing for easier transitions between work and family domains. Thus the nature of the work role itself may explain the differences between the two companies. Three-quarter of the CC respondents held a professional caregiver function. Of those nearly all were registered or licensed practical nurse or nurse specialist working in direct patient care, and a small percentage had a (para-) medical function (physiotherapist, psychologist, nursing home doctor, dietician, social worker, speech therapist). Professional health care workers also providing informal care in their private life to family members are referred to as double-duty caregivers (Ward-Griffin, 2005). Especially for workers in formal health care work settings it may be difficult to separate work and family roles as both roles easily blend together. Such integrated roles are characterized by highly permeable and flexible boundaries (Ashforth et al., 2000). In the study by Ward-Griffin et al. (2005) among female double duty caregivers blurred boundaries led to role-conflicts resulting in feelings of stress and exhaustion. In our study we observed similar outcomes. In general, conflicts can arise as well in the time-based, strain-based as the behavior-based dimensions (Greenhaus and Beutell, 1985). Time-based role conflicts are caused by a misbalance in time and resources that individuals have to juggle different roles. Strain-based conflicts produce symptoms, such as fatigue and tension, in one role which may affect performance in another role. The higher risk of making errors at work among registered nurses combining full-time patient care with eldercare is an example of this (Scott et al., 2006). Behavior-based conflict arises when a person experiences behavioral incompatibilities among the different roles, for example when the

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nursing skills and tools one deploys at work are not appreciated by a care receiver at home with different expectations towards the caregiver (Greenhaus and Beutell, 1985).

However, blending of roles may also explain feelings of enrichment. According to Greenhaus & Powell (2006) enrichment occurs when resources such as skills, knowledge, enhanced esteem, or income gained from one role improves performance in the other role through their influence on positive affect. The intrinsic rewarding and motivating experiences generally related to caregiving (De Gieter et al., 2006) in the one caring role can improve the quality of life in the other caring role. The study of St-Amant et al. (2014) illustrates part of this enrichment process by visualizing double-duty caregivers' common applied strategy to make and use connections between home-care and work-care situations. The double-duty caregivers in their study often used their knowledge of the health care system and professional status to acquire certain types of support (i.e. home care services or consultations with not easily accessible specialists). Knowing how to access and navigate the health system was felt to be critical to the positive feeling of providing good care to the family member (Wohlgemut, 2007). To provide comfort to loved ones through professional abilities was also recognized as a positive aspect (Mills and Aubeeluck (2006).

CONCLUSION

Our findings should be considered in the light of some study limitations. First, a cross-sectional method was used which hampers causal inference. Secondly, the relatively low response rate may affect external validity. Yet it is reasonable to state that our study design was sufficient for our purpose and the sample size was extensive enough to ensure internal validity. Based on our results it is possible to make some suggestions for issues that need more attention. Informal caregiving in combination with paid work is a potential risk factor for developing health complaints and overload, probably as a consequence of the greater number of work-family conflicts. At the same time employed informal caregivers are able to benefit in case work and family roles are identical, as can be concluded from the higher enrichment in double-duty caregiving. Blending boundaries between work and home possibly provokes experiences of both enrichment and conflict. As the main goal of the most organizational policies and measures until now was to reduce work-family conflict, concrete strategies to facilitate work-family enrichment have still to be developed. Supervisors and co-workers do not only have to be more aware of the presence of informal caregivers in their department, but also of the fact that positive experiences in one's family role can contribute to successful performance in one's work role. As work and personal life balance is an ongoing societal issue it is essential to extend our insights into the processes of integration and segmentation in boundary management and their effects on work-related outcomes, such as job stress, job satisfaction and motivation, and work performance and productivity. In studies on work-home balance it is necessary to study different types of workers and organizations to discover what type of employees in what type of functions and what type of organizations have a greater tendency to integrate or to segment their work and family roles.

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Table 1. Distribution of demographic and employment characteristics per participating company and informal caregiver status

Characteristic	CC			FC		
	No n=321	< 8 hrs/wk n=66	≥ 8 hrs/wk n=59	no n=499	< 8 hrs/wk n=33	≥ 8 hrs/wk n=29
Demographic						
- age (mean (SD))	42.6 (11.8)	48.9 (7.9)	47.3 (8.6)	41.8 (9.0)	42.4 (9.3)	47.7 (7.7)
- gender (% female)	90.7	93.9	86.4	46.1	81.8	44.8
- educational level (%)						
low	26.5	22.7	20.3	14.6	24.2	24.1
middle	53.6	53.0	54.2	19.4	9.1	17.2
high	19.9	24.2	25.4	65.9	66.7	58.6
- living situation (%)						
single household	13.4	13.6	1.7	13.4	9.1	24.1
multiple household	30.2	31.8	22.0	24.2	33.3	27.6
with children	56.4	54.5	76.3	62.3	57.6	48.3
Employment						
- main wage earner (%)	32.1	27.3	32.2	71.5	45.5	79.3
- full time employment (%)	12.8	6.1	16.9	26.1	27.3	17.2
- working years (mean (SD))	13.9 (10.0)	17.7 (10.8)	17.1 (9.4)	11.6 (9.8)	15.2 (10.2)	17.8 (11.8)
- contract hours (mean (SD))	25.0 (7.4)	22.3 (7.8)	24.5 (7.6)	34.9 (5.2)	32.7 (7.7)	34.2 (5.7)
- overtime hours (mean (SD))	1.6 (2.6)	1.7 (2.4)	1.8 (3.1)	2.8 (3.9)	1.8 (2.7)	1.0 (2.1)

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Table 2. Adjusted mean scores and test outcomes of indicators of work-family interference, per participating company and informal caregiver status.

Interference between work and family life	CC				FC			
	no n=321	< 8 hrs/wk n=66	≥ 8 hrs/wk n=59	F(1)	no n=499	< 8 hrs/wk n=33	≥ 8 hrs/wk n=29	F(2)
	mean (SE)	mean (SE)	mean (SE)		mean (SE)	mean (SE)	mean (SE)	
Work to Family Enrichment (1-4)	2.04(.04)	2.14(.08)	2.27(.09)	3.08*	1.94(.03)	2.07(.10)	1.77(.11)	1.91
Work to Family Conflict (1-4)	1.59(.02)	1.62(.05)	1.82(.05)	7.50**	1.59(.02)	1.71(.07)	1.69(.08)	1.99
Family to Work Enrichment (1-4)	2.37(.05)	2.52(.10)	2.63(.10)	3.05*	1.97(.03)	2.08(.12)	2.13(.13)	0.97
Family to Work Conflict (1-4)	1.29(.02)	1.34(.04)	1.49(.04)	9.96**	1.32(.02)	1.33(.06)	1.53(.06)	5.37

1: ANOVA adjusted for age and working years; 2: ANOVA adjusted for age and gender
*: p≤0.05; **: p≤0.01; ***: p≤0.001

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Table 3. Adjusted mean scores and test outcomes of indicators of health, work-related and caregiving-related variables, per participating company and informal caregiver status.

Variable	CC				FC			
	no n=321	< 8 hrs/wk n=66	≥ 8 hrs/wk n=59	F(1)	No n=499	< 8 hrs/wk n=33	≥ 8 hrs/wk n=29	F(2)
General health and work-related outcomes	mean (SE)	mean (SE)	mean (SE)		mean (SE)	mean (SE)	mean (SE)	
- physical health (1-10)	7.51(.08)	7.41(.18)	7.04(.19)	2.67	7.52(.06)	7.61(.22)	6.94(.23)	3.10*
- mental health (1-10)	7.84(.08)	7.98(.17)	7.31(.18)	4.39*	7.90 (.54)	7.81(.21)	7.57(.22)	1.07
- need for recovery after day of work (0-100)	28.38(1.29)	26.47(2.87)	39.90(3.01)	6.97** *	26.38(.96)	31.25(3.79)	32.17(4.02)	1.65
- emotional exhaustion related to work(1-7)	2.49(.06)	2.35(.13)	2.84(.14)	3.93*	2.36(.04)	2.48(.17)	2.65(.18)	1.40
- work ability (0-10)	8.72(.09)	8.96(.19)	8.73(.20)	2.45	9.03(.06)	9.04(.22)	8.92(.23)	0.11
- job satisfaction (1-10)	7.75(.07)	7.71(.15)	7.45(.16)	1.55	7.59(.05)	7.56(.20)	7.61(.21)	0.02
- work motivation (1-7)	5.68(.05)	5.67(.10)	5.78(.11)	0.35	5.73(.03)	5.71(.13)	5.75(.14)	0.02
Caregiving-related outcomes								
- self-rated burden of informal caregiving (0-10)		3.39(.31)	5.91(.32)	31.77** *		3.20(.42)	5.91(.45)	17.80** *
- ability to combine work and informal caregiving (1-5)		3.83(.07)	3.32(.08)	22.99** *		3.80(.12)	3.61(.13)	1.02
- work interruption due to informal caregiving task (1-4)		3.94(.05)	3.78(.05)	4.66*		3.74(.12)	3.61(.13)	0.48
- work problems due to sudden interruptions (1-4)		1.26(.06)	1.52(.07)	7.90**		1.17(.08)	1.39(.09)	2.87

1: ANOVA adjusted for age and working years; 2: ANOVA adjusted for age and gender
*: p≤0.05; **: p≤0.01; ***: p≤0.001

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Table 4. Percentages, adjusted mean scores and test outcomes of indicators of a supportive (formal and informal) work environment of participants, per participating company and informal caregiver status.

	CC				FC			
	no n=321	< 8 hrs/wk n=66	≥ 8 hrs/wk n=59		no n=499	< 8 hrs/wk n=33	≥ 8 hrs/wk n=29	
Use of formal support arrangements	%	%	%		%	%	%	
- any	75.7	78.8	86.4		80.0	81.8	79.3	
- part time work	67.9	65.6	69.0		41.2	58.1	48.0	
- flexible hours	31.9	34.6	45.2		25.5	29.4	11.1	
- short term care leave	6.1	4.3	11.1		12.5	12.5	36.4	
- long term care leave	2.6	0	2.6		3.3	9.1	15.0	
- emergency leave	11.4	17.8	20.6		13.7	5.3	6.7	
- temporary reduction in working hours	19.8	16.7	40.5		-	-	-	
Informal company culture (1-5)	mean (SE)	mean (SE)	mean (SE)	F(1)	mean (SE)	mean (SE)	mean (SE)	F(2)
- organizational support	3.1 (.04)	3.3 (.08)	3.0 (.09)	1.89	3.6 (.02)	3.5 (.09)	3.6 (.10)	0.50
- supervisor support	3.6 (.04)	3.7 (.08)	3.6 (.09)	0.96	3.5 (.02)	3.4 (.09)	3.4 (.10)	1.58
- colleague support	3.7 (.03)	3.8 (.07)	3.7 (.07)	0.21	3.5 (.03)	3.5 (.11)	3.4 (.12)	0.17
- time demands	2.6 (.04)	2.6 (.09)	2.6 (.09)	0.17	2.7 (.04)	2.9 (.14)	2.6 (.15)	1.05
- career consequences	2.6 (.04)	2.6 (.08)	2.7 (.08)	0.07	2.8 (.03)	3.0 (.12)	3.0 (.13)	1.84

1: ANOVA adjusted for age and working years; 2: ANOVA adjusted for age and gender

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Table 5. Percentages of indicators of a supportive work environment: informed supervisors/colleagues and supervisor and colleague awareness, actions and views with respect to informal caregiving employees in their team, per participating company.

	CC		FC	
	informal caregiver		informal caregiver	
	< 8 hrs/wk n=66 (%)	≥ 8 hrs/wk n=59 (%)	< 8 hrs/wk n=33 (%)	≥ 8 hrs/wk n=29 (%)
Supervisor is informed about informal caregiving task*				
- yes	55.2	70.4	45.5	64.0
- no, no need to discuss	20.7	18.5	22.7	8.0
- no, difficult to discuss	-	-	4.5	-
- no, unreceptive to topic	-	-	4.5	-
- no, other reason	24.1	11.1	27.3	28.0
Colleagues are informed about informal caregiving task*				
- yes	78.8	78.0	68.2	80.0
- no, no need to discuss	12.1	16.9	27.3	8.0
- no, difficult to discuss	1.5	-	4.5	-
- no, unreceptive to topic	-	-	-	-
- no, other reason	7.6	5.1	-	12.0
	supervisor n=38 (%)	colleague n=298 (%)	supervisor n=72 (%)	colleague n=434 (%)
Familiar with concept of informal caregiving before survey (yes)	100	96.0	93.1	92.2
Have you got employees/colleagues with informal caregiving task in your team?*				
- yes	84.2	52.0	18.1	18.9
- no	13.2	18.1	66.7	49.8
- don't know	2.6	29.9	15.3	31.3
If yes:				
- discuss combining work and informal caregiving (% yes)	71.9	67.7	76.9	36.6
- have adequate support measures (% yes)	78.1		76.9	

*: percentages calculated only for those familiar with the concept of informal caregiving before completion of the questionnaire

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