*PhD candidates as informal caregivers*

This study explored informal caregiving responsibilities among doctoral candidates and examined how being an informal caregiver influenced doctoral candidates’ mental health, doctoral progress, and intentions to quit. Using both survey and interview data from doctoral candidates at universities in the Netherlands from 2019, we found that almost one out of three doctoral candidates has given informal care on a regular basis within the past year. Important activities included taking care of the household, doing organisational and administrative tasks, and giving emotional support to care recipients. To combine informal care activities with a doctoral study, flexibility regarding time (working hours) and place (working outside laboratory or office) was most valued as a working strategy. Supervisors were often unaware of the informal care responsibilities of their doctoral candidates. Informed supervisors were sometimes lacking empathy regarding the impact that informal caregiving had on the daily life of their doctoral candidates.

*The impact of giving informal care on mental health*

Our survey study showed that informal care responsibilities have a negative impact on the mental health of doctoral candidates. Informal care contributed to feelings of constant strain, inability to overcome difficulties, and frequently resulted in sleeping problems. The interviews showed that the combination of informal care responsibilities, doing a doctoral study and having a private and family life at the same time could result in mental health problems. Finally, our study showed that informal care responsibilities caused some delay in the doctoral trajectory. Interviewees reported that the emotional impact of informal care resulted in limited focus on and distraction away from the doctoral study. However, informal care responsibilities did not affect intentions to quit with the doctoral study.

*Comparison of the results to previous studies*

As there are yet no studies published that focus on doctoral candidates who are informal caregivers, we compare our results to studies on working informal caregivers and students who are informal caregivers. Almost 30% of the doctoral candidates in our study give or gave informal care on a regular basis. Interestingly, this percentage is slightly higher compared to the average working population in the Netherlands who combine a paid job with providing informal care (25%; De Boer, Plaisier & de Klerk, 2019). In contrast to previous literature, which showed a higher share of informal carers among women due to the fact that daughters are more likely than sons to provide parental care (Josten & de Boer, 2015), we find no significant gender differences in prevalence of informal caregiving among PhD candidates. 36% of the respondents with informal care tasks informed their supervisor(s). This is relatively low compared to employed informal carers in the Netherlands: half of them informed their immediate superior (De Boer, Plaisier & de Klerk, 2019). The same study found that three-quarters of those who have spoken to their superior about their care task received a sympathetic hearing. In contrast, our interviewees sometimes reported a lack of empathy. Having flexible work schedules and control over work time are valued by caregiving employees (Plaisier, Broese van Groenou & Keuzenkamp 2015), including doctoral candidates in our study.

Informal care is often associated with physical and mental health effects on caregivers (e.g. Pinquart & Sorensen, 2003). Our study shows that 53% of informal caregivers and 62% of intensive informal caregivers are at risk of developing a psychiatric disorder. This is high even when compared to the alarming outcomes of previously conducted studies amongst doctoral candidates at two universities in the Netherlands (Van Rooij & van der Weijden, 2019) and in Flanders (Levecque et al., 2017). Finally, doctoral candidates who give informal care experience some delay. This is line with expectations when looking at higher education students who give informal care and also experience some delay in their studies than students who do not give informal care (Van Tienen et al., 2018).

*Implications for practice*

In the near future, a growing number of people, including doctoral candidates, will combine (paid) work with informal caregiving because of the increasing life expectancy and healthcare costs. Therefore, working informal caregivers need to be supported in this combination when necessary. To raise awareness of the possibilities of formal care leave, informal caregivers active on the labour market need to be provided with information about their options. In addition, working informal caregivers who are in need of formal care leave but do not use this because of impediments at work, should be stimulated to discuss their situation with employers, supervisors and colleagues. The combination of work and informal care should be open for discussion in a safe environment. In order to make work and informal care a topic of discussion it is important to communicate the statutory regulations regarding care leave. It is important that the informal care theme, including possible risks and overload, is raised during trainings for PhD supervisors. It will be useful for them to learn how informal caregivers can be identified and how one as a supervisor can deal with this situation in relation to the PhD trajectory. Some PhD supervisors will be more empathic by themselves, while others could benefit more from having knowledge about the support system that is in place when certain issues arise, such as burn-out, unacceptable behaviour, violation of academic integrity, and the combination of work and informal care.

Another important actor in providing information about the combination of doing a PhD and giving informal care are Human Resource (HR) departments of universities. They can ensure that supervisors, candidates, and all other employees of the university are informed about the coping possibilities, such as making agreements with one’s supervisor or taking care leave, when an employee is trying to combine work with caregiving. A possibility is to adopt the four principles of the Dutch association for Work and Informal Care (https://www.werkenmantelzorg.nl): (1) discussing: making people aware about the combination of work and informal care; (2) describing: outlining the available facilities and regulations in place in the HR policy of the organization; (3) capacitating: conversations between employer and employee and actively acting when someone is in an informal care situation; (4) securing: assuring working caregiver friendly in the organization. This information can be made visible for all actors on a website for example. HR departments could organise initiatives to make informal care a topic of discussion on the work floor. They could consider organising thinking sessions together with informal caregivers to see what their need for support is. In Amsterdam there is an example of such an initiative, which is called ‘Expertiselab Jonge Mantelzorgers’ (https://fsw.vu.nl/nl/onderzoek/expertiselabs/jonge-mantelzorgers/index.aspx) for young people who give informal care during their studies. HR departments could also look at care leave for doctoral candidates in a more formal way and consider if care leave should offer an extension to one’s PhD, such as pregnancy leave.

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