

Combining work & leisure: How satisfied are PhD holders with their work-life balance?

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WORK-LIFE-BALANCE

Work-life balance exists when one is equally satisfied and engaged in his/her work and family roles and the quality of those different roles is equally good. Finding a good work-life balance as an employee is important because it determines how engaged employees are at work and whether they will leave the company (Jaharuddin, & Zainol, 2019). Work-life balance in Flanders is monitored with the Flemish Workability Monitor. The 2019 figures indicate that 87.2% of Flemish employees consider their work-life balance as not problematic (Bourdeaud'hui, Janssens, Vanderhaeghe, 2019). There is however a difference between men and women in this regard: more men report that their work-life balance is not problematic (88.3% compared to 86.4% women). This significant difference between men and women is a trend that has only recently emerged.

Is there also a difference between men and women in satisfaction with their work-life balance? The results on this vary. In some research women reported higher levels of satisfaction with their work-life balance (Crompton & Lyonette, 2006; Gröpel & Kuhl, 2009), while other studies found no gender differences (e.g., Bari & Robert, 2016). One explanation for these mixed findings is the sector in which a person is employed (Hill, Hawkins, Ferris, & Weitzman, 2001; Dilmaghani, & Tabvuma, 2019). Also in the Flemish Workability Monitor, we see that the percentages of work-life balance change depending on the employment sector: from 76.3% in education to 92.9% in textile and clothing (Bourdeaud'hui et al., 2019)

What do we already know from previous research about the satisfaction of the work-life balance among doctorate holders? Research on this subject is very scarce and, for the time being, non-existent in Flanders. A study in Great Britain shows that only 45.2% of the doctorate holders employed at a British university are satisfied with their work-life balance (Hunt, Jagger, Metcalfe, & Pollard, 2010). More recent figures show that even 20% are very dissatisfied (Mellors-Bourne, & Metcalfe,

2017). Figures regarding satisfaction with the work-life balance among doctorate holders outside the university were not found to date, but these may possibly differ from those reported within academia. For example, the academic sector is characterized by a flexible work arrangement (e.g. place- and time-independent work), which could benefit work-life balance. The non-academic sector tends to be more diverse in terms of flexibility of work arrangements.

What is the current level of satisfaction with the work-life balance among doctorate holders? Can they find a good balance between their obligations at work and at home? Is there a difference in satisfaction with the work-life balance among doctorate holders in an academic job compared to doctorate holders in a non-academic job?

To date, we have been unable to provide answers to these questions. In this ECOOM-brief we specifically examine the level of satisfaction with the work-life balance among doctorate holders and we also look at the role of gender, science cluster and chosen career path in this. More specifically, we ask ourselves the following questions:

1. *How satisfied are doctorate holders with their work-life balance?*
2. *Does this satisfaction differ according to gender?*
3. *Does this satisfaction differ according to science cluster?*
4. *Does this satisfaction differ according to career path?*

ANSWERS BASED ON THE PHD CAREER SURVEY

We answer the questions above using the PhD Career Survey conducted by ECOOM in 2017. For a detailed discussion of this survey, we refer to ECOOM-brief 25. For a visual representation, please consult to the website <https://www.phdcareersflanders.com/en/>. In short, the PhD Career Survey maps the career paths of doctorate holders who obtained their doctorate at one of the Flemish universities. In what follows we analyse the answers of 2982 doctorate holders. The central question they answered regarding satisfaction with work-life balance was

formulated as follows: "Please indicate how you feel in your current position about the quality of your work-life balance". The answers offered could vary from "very dissatisfied" (=1) to "very satisfied" (=5).

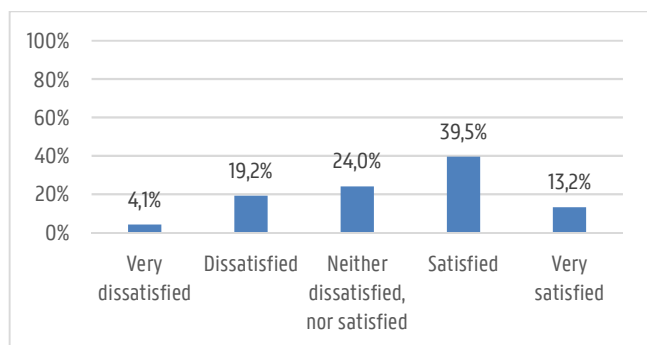
In the analyses, we differentiate according to gender, science cluster and career path. We use the Chi squared test and Cramer's V. Results are considered significant at $p < .05$. Both tests check whether the results differ significantly from each other. Cramer's V is less dependent on the sample size than Chi square. In science cluster and career path, posthoc comparisons were made using Chi square and Cramer's V where each category is compared to one other. Because of an increased chance of a Type 1 error, a stricter significance level was used for the post hoc comparisons (namely $p < .01$). These post-hoc comparisons provide insight into which categories differ significantly from each other.

HOW SATISFIED ARE DOCTORATE HOLDERS WITH THEIR WORK-LIFE BALANCE?

Figure 1 shows that a slight majority of PhD holders are (very) satisfied with their work-life balance (52.7%), while 23.3% indicated they were (very) dissatisfied. Twenty four percent indicated they were "neither satisfied nor dissatisfied".

In what follows we disregard the group "neither satisfied nor dissatisfied" and look at who is most satisfied with the work-life balance. We do this by grouping the doctorate holders who indicated to be "very dissatisfied" or "dissatisfied" in the category "(very) dissatisfied" ($N=689$). Those doctorate holders who indicated they were "satisfied" or "very satisfied" were grouped into the category of "(very) satisfied" ($N=1561$).

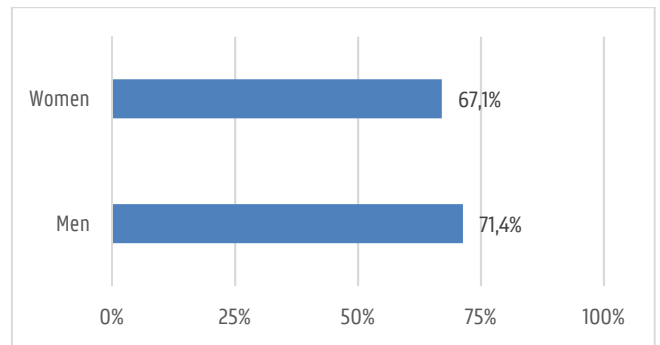
Figure 1: Distribution of satisfaction with work-life balance among doctorate holders ($N=2961$).



DOES SATISFACTION WITH WORK-LIFE BALANCE DIFFER ACCORDING TO GENDER?

Looking only at gender ($N=2250$), Figure 2 indicates that the share of (very) satisfied female doctorate holders (67.1%) is significantly lower than the share of satisfied male PhD holders (71.4%) ($\chi^2(1) = 4.84, p < .05$; Cramer's $V = .05, p < .05$). Further analyses will show that this gender difference is caused by differences in satisfaction with work-life balance among male and female doctorate holders in a specific career path (see infra).

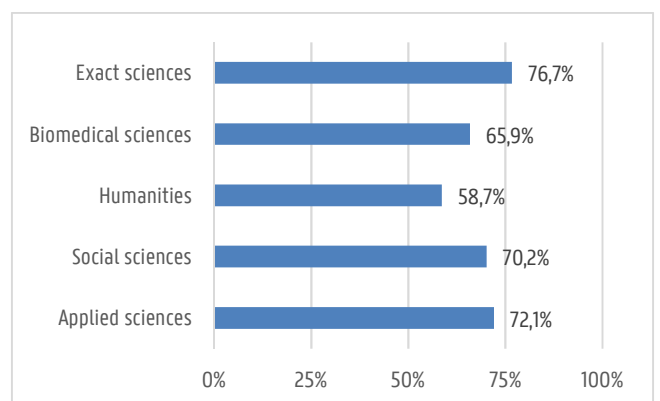
Figure 2: Share of male and female PhD holders who are (very) satisfied with their work-life balance ($N = 2250$).



DOES SATISFACTION WITH WORK-LIFE BALANCE DIFFER ACCORDING TO SCIENCE CLUSTER?

Figure 3 shows that the share of doctorate holders who are (very) satisfied with their work-life balance varies greatly depending on the science cluster. For example, we see the smallest share of (very) satisfied doctorate holders in the humanities with 58.6%. Next, 65.9% indicate to be (very) satisfied with their work-life balance in the biomedical sciences. In the social sciences 70.2% are (very) satisfied, in the applied sciences 72.5% are (very) satisfied and finally in the exact sciences 76.7% are (very) satisfied with their work-life balance. Significance tests indicate a significant association between science cluster on the one hand and satisfaction with work-life balance on the other ($\chi^2(4) = 36.16, p < .001$; Cramer's $V = .13, p < .001$). Additional post-hoc comparisons with a more strictly applied significance level ($p < .01$, see above) showed that the share of (very) satisfied doctorate holders in the humanities is significantly lower than the proportion in the exact sciences ($\chi^2(1) = 31.14, p < .001$; Cramer's $V = .19, p < .001$), social sciences ($\chi^2(1) = 11.00, p = .001$; Cramer's $V = .12, p = .001$) and applied sciences ($\chi^2(1) = 18.08, p < .001$; Cramer's $V = .14, p < .001$). The share of (very) satisfied doctorate holders from the biomedical sciences is significantly lower than the share of (very) satisfied doctorate holders from the exact sciences ($\chi^2(1) = 13.36, p < .001$; Cramer's $V = .12, p < .001$).

Figure 3: Share of doctorate holders who are (very) satisfied with their work-life balance broken down by science cluster in which the doctorate was obtained ($N=2248$).

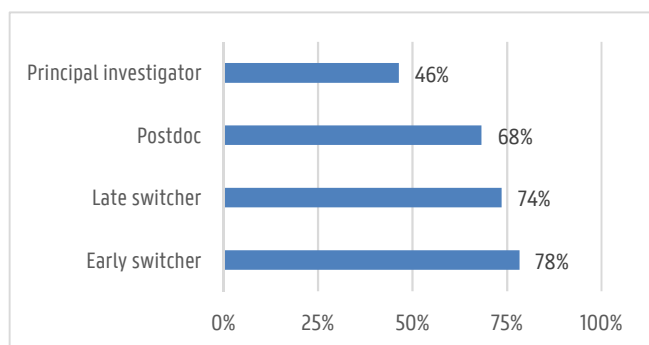


DOES SATISFACTION WITH WORK-LIFE BALANCE DIFFER ACCORDING TO CAREER PATH?

Does the satisfaction with the work-life balance of doctorate holders within the academic sector differ from that of doctorate holders in other sectors? And are there differences within "those other sectors" between those who first had a postdoc appointment and those who exchanged the academic world for a non-academic job immediately after the PhD defence? In what follows, we distinguish four different career paths: (1) the "early switcher": doctorate holders in a non-academic job who left academia immediately after their doctorate (33%); (2) the "late switcher": doctorate holders in a non-academic job, who did hold an academic appointment after their doctorate (29%); (3) "postdocs": postdoctoral researchers (16%); (4) "principal investigators": Independent Academic Personnel or Professors (ZAP) (22%). For more details on the different career paths we refer to ECOOM brief 25.

Figure 4 represents the proportion of doctorate holders who are (very) satisfied with their work-life balance per career path. Significance tests indicate significant differences between the career paths ($\chi^2(3) = 149.09, p < .001$; Cramer's $V = .27, p < .001$).

Figure 4: Share of the doctorate holders who are (very) satisfied with their work-life balance broken down by career path (N=2090).



Posthoc comparisons with a stricter applied significance level ($p < .01$, see above) show that the share of (very) satisfied "early switchers" is higher than the share of (very) satisfied "postdocs" ($\chi^2(1) = 15.92, p = .001$; Cramer's $V = .12, p = .001$) and "principal investigators" ($\chi^2(1) = 134.20, p < .001$; Cramer's $V = .34, p < .001$). The share of (very) satisfied principal investigators is also significantly lower than the share of (very) satisfied "late switchers" ($\chi^2(1) = 81.60, p < .001$; Cramer's $V = .28, p < .001$) and "postdocs" ($\chi^2(1) = 37.43, p < .001$; Cramer's $V = .22, p < .001$).

DOES SATISFACTION WITH WORK-LIFE BALANCE DIFFER ACCORDING TO CAREER PATH AND GENDER?

Table 1 shows the share of satisfied male and female doctorate holders with their work-life balance for the different career paths. The table also allows us to check separately for male and female doctorate holders whether there are satisfaction differences between the career paths.

First we will focus on the differences between career paths for men and women separately. For male doctorate holders, the share of satisfied to very satisfied with their work-life balance depends on the career path ($\chi^2(3) = 84.92, p < .001$; Cramer's $V = .28, p < .001$). Posthoc comparisons showed that the share of (very) satisfied male doctorate holders was significantly lower among the "principal investigators" compared to the "early switchers" ($\chi^2(1) = 71.80, p < .001$; Cramer's $V = .33, p < .001$), "late switchers" ($\chi^2(1) = 45.48, p < .001$; Cramer's $V = .28, p < .001$) and "postdocs" ($\chi^2(1) = 26.97, p < .001$; Cramer's $V = .25, p < .001$).

For female doctorate holders, we also found that the share of satisfied to very satisfied doctorate holders depends on the career path ($\chi^2(3) = 70.33, p < .001$; Cramer's $V = .27, p < .001$). The post-hoc comparisons showed that like the male doctorate holders, the share of (very) satisfied doctorate holders in the "principal investigator" career path is significantly lower than that of the "early switchers" ($\chi^2(1) = 64.47, p < .001$; Cramer's $V = .36, p < .001$), "late switchers" ($\chi^2(1) = 38.78, p < .001$; Cramer's $V = .29, p < .001$) and "postdocs" ($\chi^2(1) = 14.50, p < .001$; Cramer's $V = .20, p < .001$). In addition, the share of (very) satisfied among "postdocs" is significantly lower than the share among "early switchers" ($\chi^2(1) = 13.64, p = .001$; Cramer's $V = .17, p = .001$).

When we compared men and women within each career path, we found no significant differences at the $p < .01$ level. How can it be that we did not find significant gender differences in Table 1 but we did find significant differences in Figure 1? In Table 1, we use stricter statistical criteria to speak of significance, namely $p < .01$ instead of $p < .05$. If we were to use the $p < .05$ criterion in Table 1, we would find that there is a significant gender difference for the "postdocs" but not in the other career paths. This leads us to conclude that the significant gender difference observed for the total group of doctorate holders in Figure 1 can actually be attributed to a gender difference among the "postdocs".

Table 1. Share of satisfied doctorate holders with work-life balance broken down by career path and gender (N=2090)

| | Early switcher | Late switcher | Postdoc | Principal Investigator | Total |
|---------------|----------------|---------------|---------|------------------------|-------|
| Gender | | | | | |
| Male | 81.1% | 76.6% | 74.7% | 49.4% | 71.4% |
| Female | 77.8% | 71.1% | 62.4% | 42.3% | 66.4% |
| Total | 79.5% | 73.9% | 68.3% | 46.5% | 69.0% |

DISCUSSION

In this ECOOM brief we see that more than half of the PhD holders are satisfied with their work-life balance. This percentage is lower than the working population in Flanders (with 87.2%, see above; RAND, 2019). When we compare groups with different levels of education in Flanders, we see a lower percentage of satisfied employees among highly educated workers (84.9%) compared to that percentage among less educated workers (90.3%). When we place the work-life balance figures in a broader context, we see that 41% of Belgians find it (very) difficult to combine paid work with family responsibilities. With this 41%, Belgium is just above the European average of 38%. To increase the

work-life balance, new guidelines have recently been issued at the European level regarding the work-life balance for parents and family caregivers. For example, parental leave is becoming more flexible, attention is being paid to informal care and people are entitled to work flexible hours.

Belgium belongs to the leaders in terms of flexible working hours (RAND, 2019). However, it appears that a flexible work environment does not always lead to a better work-life balance. Men would fill in the flexible hours according to their work, which compromises their work-life balance (Lott & Chung, 2016). Women fill in their flexible work hours according to their family obligations or are expected to do so (Hilbrecht, Shaw, Johnson, & Andrey, 2008), which can also lead to more work-family conflicts (Chung & van der Lippe, 2020). Telecommuting has also been used more recently and certainly since the start of the COVID-19 pandemic. However, teleworking would not always lead to a better work-life balance (Allen, Johnson, Kiburz, & Shockley, 2013; Golden, Veiga, & Simsek, 2006) due to combining multiple tasks and blurring the line between family and work (Demerouti, Bakker, & Leiter, 2014). This would be more pronounced for women than for men (van der Lippe & Lippényi, 2020). Using our results, we see that the share of (very) satisfied female doctorate holders is generally lower than the share of (very) satisfied male doctorate holders.

In times of a pandemic, due attention should be paid to the work-life balance and how flexible working hours play a role in this, as the lines between private time and work are strongly blurred in this situation (Andrew et al., 2020; Eurofound, 2020). Moreover, gender differences still arise in terms of domestic work that is needed on fixed moments in the day and thus cannot be postponed (e.g. putting children to bed or making dinner). According to the Institute for Gender Equality (2020), research on time allocation during the COVID-19 lockdown showed that women still took on the majority of these tasks. Women also reported higher time constraints in this study.

The share of (very) satisfied doctorate holders about their work-life balance also differs depending on the science cluster in which one has obtained his/her doctorate. For example, the share of (very) satisfied PhD holders from the humanities is the lowest. There is probably a link between the science cluster and the chosen career path: the share of human scientists in the "early switcher" career path is smaller than the share in other career paths. In contrast, among the applied sciences we see a larger share in the "early switcher" career path compared to the other career paths (see ECOOM Letter 25).

Our results also provide evidence that the share of (very) dissatisfied PhD holders is higher in academia, for both principal investigators and postdocs. It is noteworthy that more than half of both male and female professors report being (very) dissatisfied with their work-life balance. Research in the United States indicated that professors spend much more time on administration and teaching. This leaves less time for research than what is contractually agreed (Azevedo, Shi, Medina, & Bagwell, 2020). In Flanders anno 2010, postdocs mainly spent more time on research, while professors spent more time on administration and service (Van Rossem, 2019). Especially for young professors, who are in a tenure track and where publications still weigh heavily on the

future academic career, this lack of time for research can put pressure on the private life. Monitoring the work-life balance in the academic setting is also included by the Flemish Interuniversity Council and the Young Academy in the VLIR-JA action plan 2019 on Gender in Academia. This plan explicitly mentions to make visible, stimulate, facilitate and structurally embed measures that make the combination of private time and work more compatible (VLIR & JA, 2019).

Referring again to the current pandemic, one must now also guard that the current COVID-19 measures, which are associated with the transformation of education, do not put too much pressure on research. Also, digital meetings and working from home are blurring personal and professional boundaries (Crook, 2020). Depending on the personal situation, this can also bring positive consequences such as the elimination of commuting and greater flexibility for parents working from home (Crook, 2020).

Flemish universities have already outlined policies around work-life balance. For example, Ghent University offers temporary replacement of professors on maternity leave for teaching duties. It also offers ironing services, sports camps for children and meals at work. Furthermore, it also focuses on flexible working hours, telework and leave arrangements. Analogous measures can be found at Hasselt University. KU Leuven has a Life@Work program. With this, it wants to help its employees find and maintain a good balance between work and other life domains. They do this by having an informing role and a supporting role. The support is done by offering tools and resources so that employees think about their work-life balance, such as strengthening self-management and self-regulation skills, providing information about career opportunities and offering practical support with childcare and vacation arrangements. The University of Antwerp also puts the work-life balance at the center, they want to be a family-friendly university with a focus on rights such as parental leave and career breaks. In addition, they also provide a pleasant vacation arrangement and a flexible time arrangement. Finally, the Vrije Universiteit Brussel is also committed to the work-life balance. They have a Gender Action Plan (GAP) with eight priorities of which point six is work-life balance.

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