



## Rethinking the workweek: Results from a longitudinal time-use study of a 30-hour workweek experiment

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*Research Report*

### Abstract

In 2019, Femma vzw, a Belgian women's organisation, as an experiment, implemented a 30-hour workweek within the organisation. For a period of 12 months, all full-time employees switched from a 36-hour workweek to a 30-hour workweek. During this experiment, a longitudinal time-use study into the impact of the working time reduction on the working life and private life of these employees was carried out. The study included five waves of data collection before, during and after the experiment over a period of two and a half years. Each wave consisted of an online 7-day time use diary, a pre-diary questionnaire and a post-diary questionnaire. This research report discusses the first general findings of the study, using the first four waves. Some key findings are: the employees had clear wishes and expectations about what they wanted to do with their extra time at the start of the 30-hour workweek. Above all, the wish for more personal time was high. Most employees took this extra time as one additional non-working day per week, namely Wednesday or Friday. The extra free hours mostly were spent on household work, care and personal care, although this was not exactly what they wished for. However, employees did experience less household stress, less leisure time pressure and a better work-life balance.

**Keywords:** shorter workweek; time-use; working hours reduction; 30-hour workweek

### 1. Introduction

In the past, demands from labour unions and employees led to collective working time reductions. Recent desires for a reduction in working hours have been answered by individual solutions, such as career breaks or part-time work (Lee, McCann & Messenger, 2007). Women and men can

individually choose and negotiate to reduce their working time and work more flexibly (Eurofound, 2016). However, these individual solutions reinforce gender inequality in working time. In 2019, 45.2% of female Belgian employees worked part-time, against only 11.8% of male employees (Statbel, 2020). The 30-hour workweek has been put forward as a collective solution to the wish for less working time, and to meet the challenges of combining different life spheres causing time pressure and work-life imbalance in contemporary society. Some authors see a reduction in the standard workweek as a ‘long-term solution for achieving gender equity in the labour market and the redistribution of domestic labour’ (Mutari & Figart, 2001: 40; e.g. Hochschild, 1997). In 2019, Femma vzw, a Belgian women’s organisation, experimented with a 30-hour workweek across the organisation. For one year, all full-time employees worked in a 30-hour regime. The research group TOR at the *Vrije Universiteit Brussel* was commissioned to study the impact of this 30-hour workweek on the working life and private life of their employees by using a time-use diary approach. Five waves of data collection were conducted, each required all employees to fill in a 7-day time use diary, and a pre- and post-questionnaire. This research report presents a general descriptive overview of the first findings of this study. We will discuss the impact of shorter working hours on paid work and unpaid work, but also on leisure time, family/social relations and mental health.

## **2. Literature review**

A reduction in working hours not only changes the sphere of paid work, but can potentially impact other life spheres too, such as unpaid work, leisure, social and family life. Additionally, it might also affect mental health outcomes. When introducing a collective working time reduction in an organisation, it is important to actively involve all employees in the process of change and make sure the changes are thought through and implemented well. Otherwise, this can cause stress and job strain for employees (Enehaug, 2017). If done well, the implementation of a shorter working week can increase workers’ productivity (Enehaug, 2017), workers’ motivation and boost performances (Mullen, 2017).

### **2.1 Unpaid work**

Looking at unpaid work, we see that the gap between women and men in time spent on household activities has decreased over the past decades. Women increased the time spent on paid work substantially, partly compensating it by spending less time on domestic work. Men increased their share in household work slightly, but they did not decrease the time they spend on paid work (Glorieux & van Tienoven, 2016). In recent years, the convergence between men and women in terms of hours spent on unpaid and paid work has stagnated and time-use is still very much gendered. Women remain the primary caretaker for the home and family, resulting in working women putting in a ‘second shift’ at home (Hochschild, 1989; Bittman & Wajcman, 2000). Sociologists argue that only a collective change (at societal level) can shatter the traditional gender roles (e.g. Hochschild, 1997). However, little research is available on the effects of a collective workweek reduction on the coordination of unpaid work between partners in the same household. In dual earner families, an equal distribution of unpaid work might be attained if both partners

reduced their working hours per week. Yet, research in France concluded that an equal reduction in working hours between partners did not lead to an equal division of household and care work, confirming the ‘gender-based perspective’ (Pailhé, Solaz & Souletie, 2019). In the Femma experiment, only one person in the household, almost all women, reduced their work time. If a woman opts for an individual working time reduction, such as part-time work, this often results in an increase in household work and childcare (Glorieux & van Tienoven, 2016). As such, the 30-hour week, especially in the case of Femma, could also reinforce more traditional gender roles.

## **2.2 Leisure**

Time free from any type of work and other obligations is important to recover (Sonnetag & Zijlstra, 2006). However, nowadays people are faced with an insatiable amount of leisure possibilities (Glorieux et al., 2010), which can result in more stress and feelings of time pressure. Not only the duration of leisure time, but also the quality of leisure time impacts the subjective experience of time pressure (e.g. Moens, 2006). In general, women’s leisure time is shorter and of lower quality than that of men, due to more fragmentation and contamination (Bittman & Wajcman, 2000). A study on the impact of the 35-hour workweek in France also shows differences between women and men: women spent more time on personal care, reading and listening to music, whereas men reported spending more time on sports, gardening and pottering about (Méda & Orain, 2002). People on career breaks tend to spend their extra free time on more active leisure, instead of taking it more slowly. Women mostly use their extra time for childcare. A smaller portion of men uses it for childcare as well, but many also use it for extra courses or to change career (Vandeweyer, 2010).

## **2.3 Social/family life and wellbeing**

Literature suggests that both a decline in working hours and flexible working arrangements can have positive effects on personal and family life (Burchell et al., 2007). In theory, they hold the promise of bringing working time in line with individual preferences. Flexible work arrangements make it easier to make appointments and plans, visit public services, conduct household errands, participate in a family activity, reduce commuting time, and take a long weekend to relax (Higgins, Duxbury & Julien, 2014). Scholars argue that in order for a working time reduction to be beneficial for family life, workers must have the ability to negotiate their working time patterns (Fagnani & Letablier, 2007). By having time autonomy, workers can alternate their work schedules in such a way that they avoid or ‘unbind’ time conflicts between social roles, and can synchronize leisure time with family and friends (Tausig & Fenwick, 2001; Fagnani & Letablier, 2007). The possibility of synchronizing leisure time with the social environment also increases the satisfaction and value of free time (Bittman & Wajcman, 2000). An extra work-free weekday seems to be beneficial for achieving this more synchronous leisure (Brown et al., 2011). For parents, shared time with children (e.g. leisure activities, eating together, talking and playing) can also increase parental satisfaction and enhance family quality and cohesion in general (Zabriskie & McCormick, 2001). Parents reported that they devoted more quality time with their children following the implementation of the 35-hour workweek in France (Fagnani & Letablier, 2007). Reduced working hours diminish the chances of work invading family life, for example less disrupted family activities or working during unsocial hours (weekend and evening) (White & Beswick,

2003). Both leisure satisfaction (Hribernik & Mussap, 2010) and less work-family conflict (Kluczyk, 2013) contribute to higher individual wellbeing. Doing shared activities with partner and/or children in turn enhances family wellbeing (Sevón, Malinen & Rönkä, 2014).

Overall, prior research suggests that a reduction of working hours will most likely impact employees' time spent on unpaid work, leisure and social/family time, but will probably also change the quality of this time and how this time is experienced. The original change is made in the realm of paid work, and we can thus expect to find changes in employees' experiences of work. Mental health and wellbeing are associated with many life spheres and will probably be affected indirectly. This research report will provide initial insights into the possible impact of a 30-hour workweek on the above-mentioned life spheres of the employees.

### **3. Data and Methods**

There were five waves of data collection taking place over the course of three years. The first two waves took place in March and October of 2018, the year before the implementation of the 30-hour workweek. These are the pre-measurements. The third and fourth wave took place in March and October of 2019, during the experiment of the 30-hour workweek. The fifth wave took place in March 2020, right after the 30-hour workweek experiment. In this report, we only use the four first waves. The fifth and last wave took place in March 2020 and was affected by the Covid-19 crisis in Belgium. From March 14<sup>th</sup> 2020, work from home was mandatory for all Femma employees. Schools closed, so parents were working from home with their children present. This situation is in no way comparable to the situation during or before the 30-hour workweek and therefore we decided not to use the data from the fifth wave in this report.

For each wave, respondents kept an online diary (using a personal computer and/or an app on a tablet and/or smartphone) for 7 consecutive days. In these diaries, respondents report their main and secondary activities (including start and end times), where the activity took place, who they spoke with and who was present during the activity, how much satisfaction the activity gave them, and why they had done the activity (motivation). In addition to the diary, respondents filled in a pre-diary and post-diary questionnaire with questions about the composition of their family, their work situation, mental health, household arrangements, attitudes and preferences. The data collection used MOTUS software, developed specifically for time-use research (Minnen et al., 2014).

#### **3.1 Research sample**

Femma is a women's organisation with about 60 employees. Except for one man, all employees were women. Femma employs both full-time and part-time employees. A full-time employee works 36 hours per week. However, employees over the age of 50 were already entitled to a limited reduction in weekly working hours. Those between the age of 50 and 55 are entitled to a weekly reduction of two hours (working 34 hours per week), while employees of 55 or older get a weekly reduction of 4 hours (working 32 hours per week). Consequently, their working hours reduced by 4 and 2 hours respectively during the experiment. Four employees worked 28 hours/week in 2018. They could choose to continue working 28 hours per week in 2019 or work two hours more to

reach the full-time equivalent of 30 hours. Three of the four chose to increase their working hours to 30. Part-time employees, working 26 hours or less, did not change their working hours. For the analyses in the report, we divide employees into three categories based on their actual working hours in 2018: ‘26 hours or less’; ‘28 to 34 hours’; and ‘36 hours’. The group with 36 hours is the biggest group and the most interesting to study as their working hours were reduced the most. In 2018, 26 Femma employees worked 36 hours, 20 worked 28 to 34 hours, and 17 worked 26 hours or less.

The ‘26 hours or less’ and ‘28 to 34 hours’ groups are mostly older employees: at least 70% is 56 years or older. The ‘36 hours’ group is younger: almost 61% is aged 36 to 45 years. Consequently, these three groups live in different family situations. About 87% of the ‘26 hours or less’ group and almost 74% of the ‘28 to 34 hours’ group do not live with any children. This differs from the ‘36 hours’ group: 33.3% of this group does not live with children, 33.3% has a youngest resident child aged 0-7 years, and another 33.3% has a youngest resident child aged 8-18 years.

In this study, we compare outcomes before and during the experiment. This *pre-during* comparative research design allows us to study differences in time-use and experiences changing from a standard workweek of 36 (34 or 32) hours per week to a 30-hour workweek. Of course, we do not claim causal effects of a working time reduction. In addition, the group of employees working 26 hours or less can function as group to compare the changes of the other groups with, as their working hours did not change as a result of the experiment, but they did take part in the preparations of the experiment and underwent the reorganizations within Femma associated with the experiment. As such, we hope to be able to separate the consequences of the working time reduction from eventual changes caused by other evolutions and transformations in the organization of Femma during the experiment.

### 3.2 Response

Table 1 shows, for each wave, the total number of employees invited to take part in the research, the number who filled in the pre- and post-questionnaire, and provided a complete 7-day diary. During the period of data collection some of the employees retired or left Femma. This explains the variation in invited employees over the different waves. The ‘invited employees’ for the study is the maximum for that wave and response rates can be calculated by dividing each state by this number. Employees who were unable to complete their diaries during the period provided, were still asked to complete at least the two questionnaires<sup>1</sup>. Respondents were reminded of their participation on a regular basis and asked to continue their registration.

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<sup>1</sup> Over the four waves, fewer employees aged 56+ years took part. This is due to some of them retiring during the research. In the fourth wave, fewer part-time employees took part in the research. As they did not decrease their working hours, they might have been a little less motivated to invest time in the questionnaires and diary after three waves.

**Table 1:** Number of employees invited to take part in the study, filled in the pre-survey, the diary and the post-survey in each Wave

	Wave 1	Wave 2	Wave 3	Wave 4
Invited	61	60	59	56
Pre-survey	60	56	55	49
Diary	51	47	49	42
Post-survey	51	53	54	48

### 3.3 Analyses

Although respondents could choose from a very wide range of detailed activities in their diary, in the analyses below we will mainly discuss the larger time-use categories. These are:

1. Paid work (all work they did at Femma + paid work outside of Femma)
2. Household work, DIY, shopping and service visits
3. Childcare
4. Personal care, eating and drinking
5. Sleep and rest: also sick in bed, awake in bed, doing nothing, making love
6. Education
7. Social participation: social contacts, talking, visiting people, volunteering and unpaid help/informal care etc.
8. Leisure and media: hobbies, games, recreation, watching television, reading, going out, cultural participation etc.
9. Waiting
10. Travel (including work-related commuting)
11. Other/undetermined time

For most analyses, we refer to the pre-experiment period in 2018 as the average of the first two waves, and the year of the experiment in 2019 as the average of the third and fourth wave. This will mostly be the case comparing mean durations of time spent on activities. Using the mean of two weeks each year is more reliable and more representative for a ‘normal week’. Analyses will be done on a basis of mean duration per respondent. This means that everyone’s time spent in an activity will be accounted for, including those who did not spend any time in the activity. Although we do present the significant differences for duration variables in the provided tables, we will not refer to these in the text. Splitting up the already small group of all employees makes for even smaller groups, for which significance testing is not very reliable.

For other analyses, we compare differences between the four waves in a series of scales derived from items in the questionnaires. The scales used in this report are: quality of work atmosphere, pleasure in work, work tempo, household stress, general time pressure, leisure time pressure, quality time and relationship with children, work-to-life conflict, mental exhaustion and

sleep problems. See the Appendix to this report for information about the items used to construct these scales. Significance was tested using the Repeated Measures ANOVA. Statistical significance is assumed when the p-value is smaller than 0.05. When we report on the time respondents spent in the presence of others or done together with someone, we only report on the second, third and fourth wave. In the first wave, these context questions were not asked in the same manner and are therefore hard to compare.<sup>2</sup>

## 4. Findings

### 4.1 General findings

Of the Femma employees 41% saw their working hours change from 36 to 30 per week in 2019. They were given the freedom to shape their new workweek as they wished. Most employees chose to shape their 30-hour workweek in the form of one free day a week, instead of choosing fewer working hours every weekday. Wednesdays (with half days off at school) and Fridays were the most popular days to have their extra time off, their new non-working day. Femma employees have always had the chance to work time- and place independent. Even before the implementation of the 30-hour workweek, these two days were already the days on which the overall working hours at Femma were lowest (due to part-time work, taking up of overtime, holiday).

Femina employees had clear wishes and expectations regarding the way they would and wanted to spend their time during the experiment. Figure 1 shows those wishes, expectations and outcomes as expressed by the employees, asked in the questionnaires over all waves. There was great unanimity on prioritising personal time (me-time, living healthier, sports and exercise) as 83% wished to, and 71.1% expected to have more time for themselves. Almost 70% wished to have more time for sports, and about 60% wished to spend more time with their partner and children and to live healthier. The expectation of having more time with the children was a little higher than the wish. In 2019, the employees were asked how they experienced their time spent on these activities in reality. Only 42.8% said they felt like they had more time for themselves, 33.8% said they had more time for sports and 25.4% said they spent more time with their partner. These are big differences compared to the wishes and expectations. Regarding time spent with children, the perceived reality lived up to the wishes somewhat more: 50.9% said they spent more time with their children.

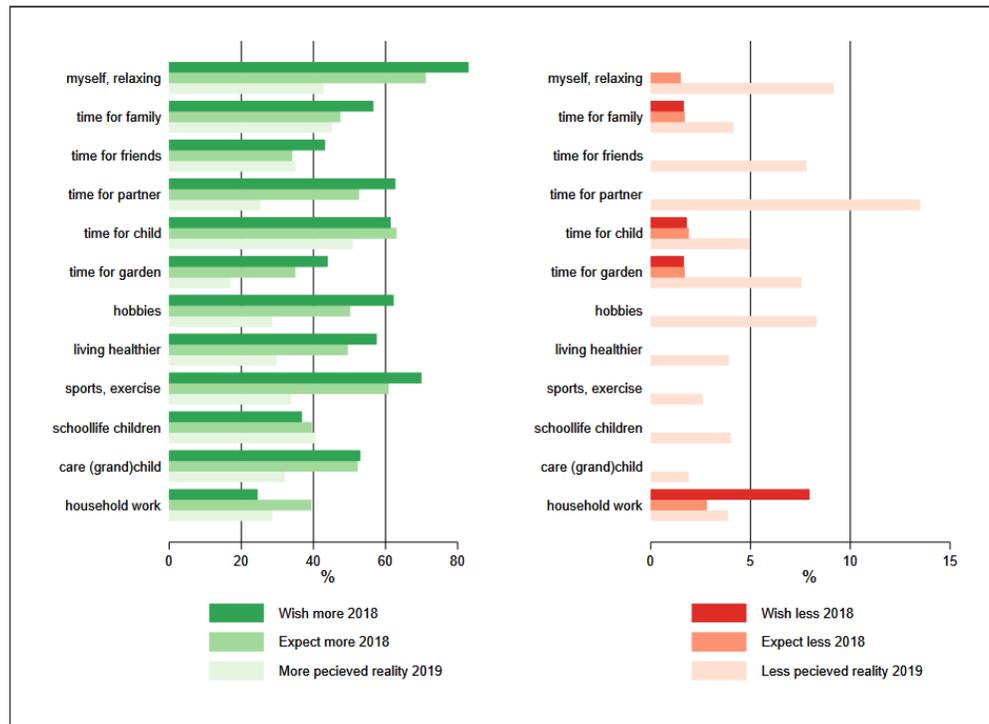
Using the diary data, we can investigate whether the Femina employees actually spent their time differently during the experiment. Table 2 shows the mean duration per respondent per week for the different main activities in 2018 and 2019. Not surprisingly, less time was spent on paid work in 2019. The group that worked 36 hours in 2018 spent almost 5 hours less on paid work per week in 2019. In addition, the time spent on travel decreased in 2019 with 2h27 per week, mainly concentrated in a decrease in work-related travel. The time freed-up by reduced paid work time mostly was spent on more household work, although this was certainly not a priority for the

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<sup>2</sup> More information on the data collection and the cleaning of the data can be found in the technical report (Mullens, F., Verbeulen, J. & Glorieux, I. 2020).

employees, and personal care (eating and drinking). The '36 hours' group also had more leisure time (1h20) and more time for social participation (22 minutes). The group working 28 to 34 hours spent more time on social participation activities in 2019 compared to 2018 (3h27 difference). However, their leisure time decreased with about 2h30 per week.

**Figure 1:** Percentage of employees that wished, expected and actually thought they spent more or less time on a selection of activities



The total workload (paid work, household work, childcare and informal care) has decreased in 2019 for the two groups that reduced their working hours. The '36 hours' group decreased their total workload by about an hour and three quarters, from 52h10 in 2018 to 50h27 in 2019. The group working 28 to 34 hours reduced their workload with less than half an hour, from 52h09 in 2018 to 51h46 in 2019. It is clear that the reduction of paid work is partly compensated by an increase in unpaid work.

If we split up the '36 hours' group based on the age of their youngest resident child (results not shown), we witness the highest decrease of paid work between 2018 and 2019 among those with a youngest resident child aged 7 years or younger (about 7 hours per week). Those with no resident children, or with the youngest resident child aged 8-18 years, have decreased their paid work with about four to five hours per week. Those without resident children spent much more time on household work and leisure time in 2019 than in 2018. While for those with resident children, more time was spent on personal care and social participation, next to household work.

**Table 2:** Mean duration (hours:minutes) per respondent per week for all main activities by year and group of actual hours

	Up to 26 hours		28 to 34 hours		36 hours	
	2018	2019	2018	2019	2018	2019
Paid work	23:48 (6:57)	22:17 (7:39)	31:36 (5:50)	28:40* (6:57)	34:03 (6:53)	29:08*** (6:15)
Household work	18:37 (7:01)	21:29 (9:23)	15:54 (7:20)	17:57 (6:58)	10:38 (5:15)	13:18** (5:40)
Childcare	2:59 (3:40)	3:08 (5:37)	3:18 (6:16)	3:07 (6:18)	7:13 (7:08)	7:41 (6:04)
Personal care, eating, drinking	20:57 (6:58)	19:30 (6:12)	16:25 (2:55)	17:04 (3:14)	13:17 (3:17)	14:43* (3:34)
Sleep and rest	57:12 (10:59)	60:37 (9:57)	57:29 (5:12)	57:41 (6:28)	59:04 (7:34)	59:12 (6:36)
Education	0:23 (1:35)	0:32 (1:15)	0:19 (0:58)	0:31 (1:24)	0:56 (2:44)	1:01 (2:38)
Social participation	12:54 (7:48)	12:26 (7:10)	8:55 (6:31)	12:12 (8:08)	9:06 (6:43)	9:29 (5:35)
Leisure and media	17:40 (8:37)	15:42 (10:04)	20:48 (7:54)	18:17 (9:52)	18:12 (7:16)	19:32 (8:16)
Waiting	0:15 (0:31)	0:25 (0:43)	0:14 (0:29)	0:18 (0:41)	0:10 (0:23)	0:20 (0:47)
Travel	10:43 (4:30)	10:15 (3:55)	10:29 (4:26)	10:30 (3:39)	13:52 (6:09)	11:25** (4:37)
Other	2:24 (1:58)	1:30 (1:29)	2:27 (2:21)	1:36 (1:45)	1:22 (1:43)	2:03 (3:12)
Total work load	46:15 (10:25)	47:57 (10:32)	52:09 (10:09)	51:46 (9:06)	52:10 (11:26)	50:27 (8:51)
Number of observations	28	21	29	27	41	41

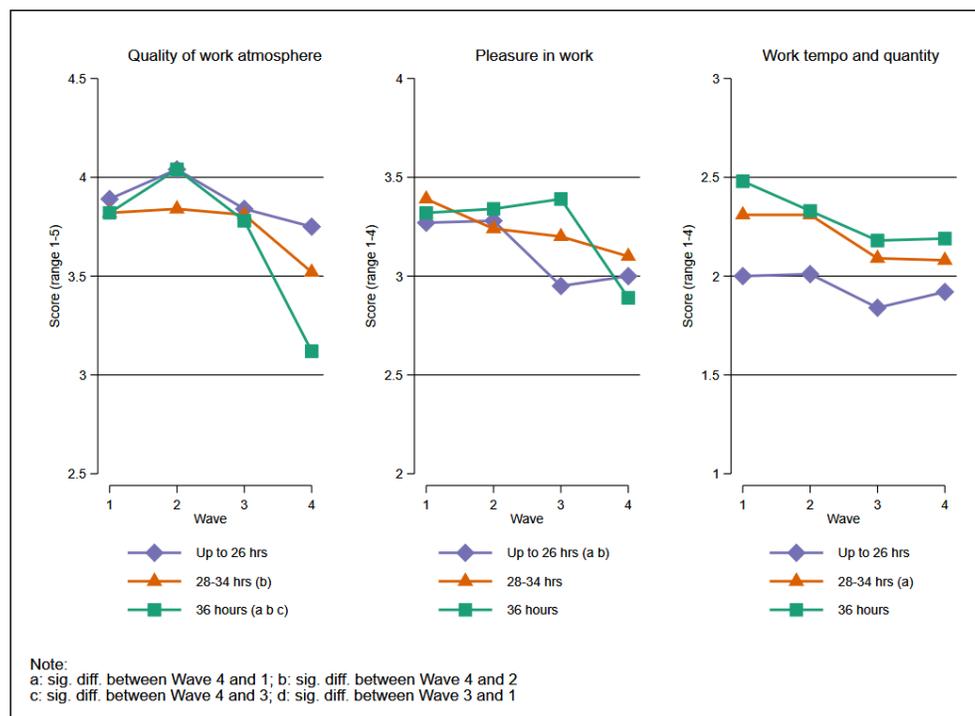
Notes: Standard deviations in parenthesis; Differences between 2018 and 2019 for each group: \* $p < 0.1$ ; \*\* $p < 0.05$ , \*\*\* $p < 0.01$

#### 4.2 Paid work

Together with the introduction of the collective working time reduction, new organisational arrangements were made to increase efficiency and manage pressures to do the same amount of work in less time. In collaboration with a consultancy firm, Femma decided to start working in self-managing teams to optimise work processes. New teams were formed and some employees

were assigned a different job within Femma, some tasks were outsourced. This all happened a few months before the start of the experiment. For some teams this transition was easier than for others. Restructuring work at the organisational level is a common practice when implementing an organisational change, as change can cause stress and job strain among employees (Enehaug, 2017). Too high demands in terms of work pace and workload will negatively influence employee's wellbeing (Cox & Griffiths, 1995). Figure 2 shows the scales quality of work atmosphere, pleasure in work and work tempo over the four waves for the three different groups based on their working hours in 2018 (see the Appendix for information about the items used to construct these scales).

**Figure 2:** Change in quality of work atmosphere, pleasure in work, and work tempo and quantity Waves 1-4: working up to 26 hrs, 28-34 hrs, and 36 hours



Looking at the experience of quality of the work atmosphere, it is remarkable to see a decline for the three groups, as shown in Figure 2 (left panel). Especially in October 2019 (Wave 4), this scale scores lower. For the '36 hours' group this difference between Wave 4 and the previous three waves is quite large and statistically significant. Also, the experienced pleasure in work decreases (Figure 2, middle panel), although only for the group working up to 26 hours we found a statistically significant difference between the waves.

Splitting the results based on the team they work in, we found big differences (results not shown). The experienced decline in quality of work atmosphere and pleasure in work was found only in two of the six teams. These teams had more trouble with the trajectory of reorganization (new teams, new people to work with) and with self-management, introduced before the 30-hour

workweek, than expected by the management. The mean decline in quality of the work atmosphere and pleasure in work is thus concentrated among particular teams. Other analyses show that many work activities were done with more satisfaction in 2019 (based on diary data), especially ‘HR, management’, ‘meetings, training, conferences’ and ‘information and file processing’.

The perceived work pace did not rise in 2019. This scale of ‘work tempo’ is based on seven Likert items (see Appendix for details on the items used to construct this scale). Over all employees, the work pace even significantly decreased for the different groups (see Figure 3, right panel). Overall, the working regime in the 30-hour workweek turns out to be preferable for the employees on the long term. In 2019 almost 90% of the ‘36 hours’ group said they think they could keep up working in this system (30 hours per week) until their retirement age. In 2018, only about 16% thought they could keep up in a regime of 36 hours.

### **4.3 Unpaid work**

Looking at the diary data, we see an increase in the time spent on household work and care in 2019 (see Table 3). More specifically, the time spent on ‘setting the table, cooking, doing the dishes’ increased. This increase is largest for the ‘36 hours’ group, and most of this time is spent on cooking. More time was also spent on ‘cleaning, washing and ironing’ in 2019. Especially for the ‘up to 26 hours’ group these types of activities increased (about an hour per week). But also, the ‘36 hours’ group spent more time on cleaning, washing and ironing, almost half an hour per week. A third rise was found for the activities concerning shopping and purchases. Here the ‘28 to 34 hours’ group shows the biggest increase. They spent almost two hours a week more on shopping in 2019. Of course, the time spent on different tasks is also dependent on the presence of (young) children in the household. In addition to household work, the 30-hour workweek allows more time for care: childcare for those with younger children and informal care for those without (young) children in the household (results not shown).

Although some of the employees wanted to spend less time on household work, the general rise in household work and care is not necessarily something bad or undesirable. Recalling from above, in addition to reporting on activities, respondents could provide information about the satisfaction and motivations for their activities; in 2019, employees indicated that they enjoyed doing household and care activities more than before. Less of these activities were seen as an obligation, more were done out of pleasure. Additionally, routine household activities were less than before combined with other activities. During the working time reduction, the Femma employees focused more on one activity at a time, which often benefits the quality of the time. For example, in 2018, the ‘36 hours’ group combined about 62% of their activities concerning cleaning and washing with another secondary activity. In 2019, this was reduced to only 48%. This all made for a more relaxed feeling concerning household work. The ‘36 hours’ group experienced significantly less household stress in 2019 compared to 2018 (see Figure 3 below). The household stress scale consists of four Likert items (see Appendix for information about the items used to construct this scale).

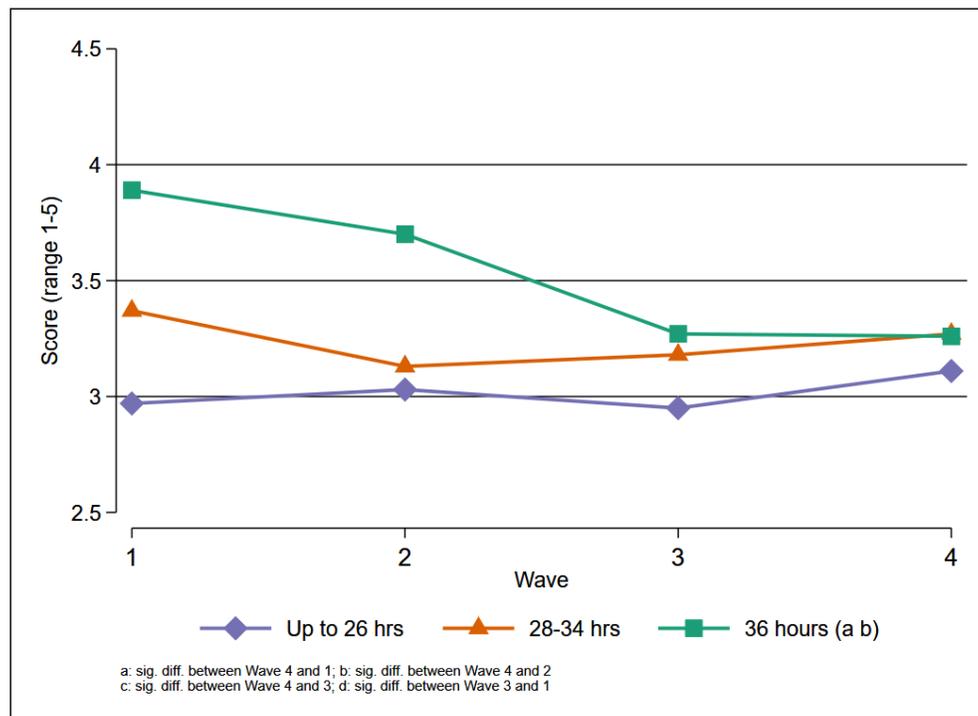
On the other hand, the Femma employees had the feeling that they took up a greater share of the household work and/or felt that the difference with their partner had widened in 2019. It is also striking that for most of the tasks they take up, they perform the biggest share (ranging from

50 to 70%). Overall however, they are rather satisfied with the organisation and division of this work, although the share of unsatisfied employees did rise from 19.4% to 26.7% for the organisation of household tasks, and from 20.9% to 33.3% for the division of household work between partners. The '36 hours' group is the least satisfied. Taking up more household work was not what many of the employees wished for. Taken together with possible changes in the household or the partner's work in and outside the home, can explain these changes in satisfaction.

**Table 3:** Mean duration (hours:minutes) per respondent per week for all activities to do with unpaid work by year, groups actual hours

	Up to 26 hours		28 to 34 hours		36 hours	
	2018	2019	2018	2019	2018	2019
<b>Household work</b>						
Setting table, cooking, washing up	6:25 (3:12)	6:45 (4:12)	4:24 (2:21)	4:45 (2:27)	4:05 (2:34)	4:58 (2:35)
Cleaning, washing, ironing	6:00 (2:35)	6:59 (2:45)	6:12 (3:32)	6:00 (3:44)	3:06 (2:32)	3:34 (2:44)
Taking care of plants and animals	1:53 (3:09)	1:42 (3:35)	1:02 (1:22)	1:01 (1:34)	0:23 (1:00)	0:26 (1:22)
Administration and organisation	0:54 (1:04)	1:30 (1:51)	1:03 (2:23)	0:58 (1:56)	0:42 (1:14)	1:08* (1:31)
DIY, maintenance, moving	0:36 (1:32)	0:50 (1:44)	0:16 (0:48)	0:27 (1:00)	0:33 (2:04)	0:49 (2:10)
Shopping and purchases	3:01 (1:37)	3:35 (2:32)	2:41 (2:11)	4:31* (5:06)	1:42 (1:27)	2:10 (1:54)
Service visits	0:01 (0:10)	0:13* (0:34)	0:12 (0:25)	0:11 (0:31)	0:02 (0:11)	0:09* (0:21)
<b>Childcare</b>						
Care child	1:47 (2:39)	1:27 (2:45)	1:19 (3:44)	1:54 (4:11)	3:43 (4:31)	3:55 (3:59)
Education and guidance	1:12 (1:59)	1:40 (3:19)	1:58 (4:24)	1:12 (2:57)	3:29 (4:12)	3:45 (3:20)
<b>Unpaid help</b>						
Care resident adult	0:04 (0:18)	0:12 (0:34)	0:48 (2:04)	0:35 (1:46)	0:08 (0:38)	0:02 (0:11)
Informal care others	1:34 (2:35)	0:48 (1:53)	0:46 (2:11)	1:24 (2:49)	0:06 (0:37)	0:14 (0:50)
Number of observations	28	21	29	27	41	41

**Notes:** Standard deviations in parenthesis; Differences between 2018 and 2019 for each group: \*p<0.1; \*\*p<0.05, \*\*\*p<0.01

**Figure 3:** Household stress over the waves for the different groups (4 items, range 1-5)

#### 4.4 Leisure time

Spending less time on paid work potentially makes more time available for (quality) leisure, perhaps leading to less fragmented and contaminated leisure time. The term ‘recreational time’ refers to ‘social participation’, ‘leisure and media’, and ‘relaxing and doing nothing’. These three categories are shown in Table 4. For all groups, we find an increase in time spent relaxing and doing nothing in 2019. The groups that reduced their working hours also show an increase in social participation, this is especially true for the ‘28 to 34 hours’ group. The ‘36 hours’ group is the only group where we find an increase in time spent on leisure activities and media: they spent 18h12 per week on these activities in 2018 and 19h32 per week in 2019. It is mostly activities like watching television, reading, and surfing the internet where they spent more time in 2019. These are activities often done at home. Activities concerning hobbies and games have also increased a little. For social participation, we see that the increase is mainly due to an increase in time spent on social contacts and visits, and not so much volunteering. Social contacts often also take place outside the home. For the ‘36 hours’ group, however, we see that only the in-home social contacts have increased in duration. The two other groups did spend more time in out-of-home social contact. However, we do not find big shifts in leisure activities between 2018 and 2019. Spending less time in paid work does not make for a more diverse leisure repertoire/pattern (results not shown). This means that the Femma employees did not start many new leisure activities in 2019, but spent their time on activities that they already were active in. At the end of 2018, a few months before the working time reduction, all employees were challenged by Femma to think about how to spend their time and what they would change with the introduction of the 30-hour workweek.

Employees who already worked 30 hours or less, were also encouraged to think of their time-use. This might explain why we see some changes within this group as well. The focus on more in-home activities in the ‘36 hours’ group can be related to their wish for more me-time. These are often calmer activities like reading, or certain hobbies that they prefer to do on their own. This corresponds to the findings of women in France after the introduction of the 35-hour workweek (Méda & Orain, 2002).

**Table 4:** Mean duration (hours:minutes) per respondent per week for recreational time by year and actual hours groups

	Up to 26 hours		28 to 34 hours		36 hours	
	2018	2019	2018	2019	2018	2019
Social contacts, volunteering and unpaid help	12:54 (7:48)	12:26 (7:10)	8:55 (6:31)	12:12 (8:08)	9:06 (6:43)	9:29 (5:35)
Leisure and media	17:40 (8:37)	15:42 (10:04)	20:48 (7:54)	18:17 (9:52)	18:12 (7:16)	19:32 (8:16)
Relaxing and doing nothing	0:57 (1:22)	2:33 (5:57)	0:40 (0:47)	1:04 (1:10)	1:13 (2:23)	1:43 (3:14)
Number of observations	28	21	29	27	41	41

Notes: Standard deviations in parenthesis; Differences between 2018 and 2019 for each group: \* $p < 0.1$ ; \*\* $p < 0.05$ , \*\*\* $p < 0.01$

We also looked at fragmentation and contamination of leisure time to investigate the quality of this time. Fragmentation is operationalized as the mean duration per leisure activity episode or social participation activity episode. Non-contaminated time is seen as activities that were not combined with a secondary activity (i.e. not multi-tasking). The results are shown in Table 5. For leisure activities such as watching television, hobbies, and recreational activities we find a slight increase in fragmentation for the groups that have reduced their working hours. A more fragmented time consists of shorter episodes per activity and is often believed to be less qualitative. For social participation, we find a decline in fragmentation for all groups.

Looking at contamination, we find that the ‘36 hours’ group combines less of their time spent on social participation and leisure with secondary activities. Their recreational time is ‘purer’ and this would benefit the quality of this time. In 2018 the ‘36 hours’ group had 7h14 of pure leisure time per week, in 2019 they had 9h47. This is mostly due to less contamination of leisure with childcare and personal care. The ‘28 to 34 hours’ group combines about the same time of social participation and leisure with secondary activities in 2019 as they did in 2018. We find a higher contamination of social participation with personal care. This is not necessarily bad in terms of the quality of this time as this often is the combination of talking with eating dinner or having a drink. For this group, we also found an increase of the contamination of social participation and leisure with care. With some caution, we suggest that the recreational time in 2019 was of higher quality, especially for the ‘36 hours’ group.

More (quality) recreational time might have caused a decrease in leisure time pressure in 2019 for the two groups that reduced their working hours. Looking at this now, Figure 4 shows

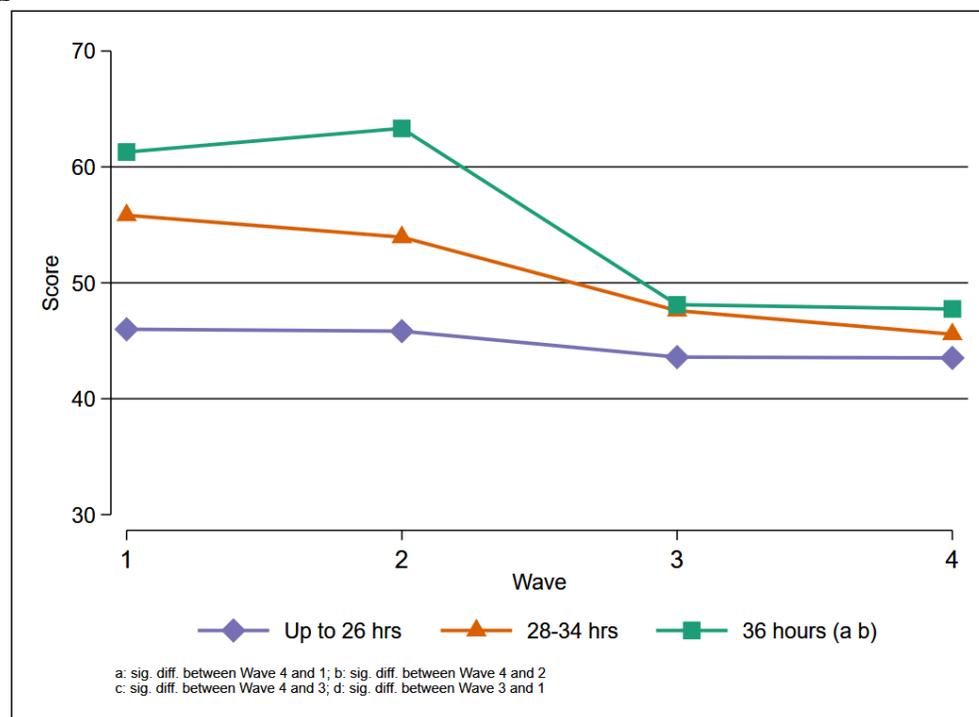
average score on a leisure time pressure scale ranging from 0-100 (see Appendix for information on the items used to construct this scale). For the '36 hours' group we find a substantial and significant decline from 62 in 2018 to 48 in 2019.

**Table 5:** Fragmentation and contamination (hours:minutes) of social participation and leisure by year and groups actual hours

	Up to 26 hours		28 to 34 hours		36 hours	
	2018	2019	2018	2019	2018	2019
<b>Fragmentation</b>						
Social contacts, volunteering and unpaid help	1:39 (0:46)	1:50 (1:01)	1:37 (0:49)	1:50 (1:03)	1:49 (1:23)	1:49 (1:08)
Leisure and media	1:38 (0:51)	1:38 (0:39)	1:50 (0:35)	1:42 (0:42)	1:45 (0:47)	1:38 (0:44)
<b>Contamination</b>						
Social participation without secondary activity	4:30 (8:56)	4:13 (6:37)	3:47 (7:46)	3:50 (9:04)	3:16 (6:08)	4:39* (5:59)
Leisure without secondary activity	9:36 (3:43)	7:12 (4:28)	10:36 (5:05)	10:11 (4:03)	7:14 (3:48)	9:47 (5:31)
Number of observations	28	21	29	27	41	41

Notes: Standard deviations in parenthesis; Differences between 2018 and 2019 for each group: \* $p < 0.1$ ; \*\* $p < 0.05$ , \*\*\* $p < 0.01$

**Figure 4:** Leisure time pressure (range 0-100) over the four waves for the different groups, based on 6 items



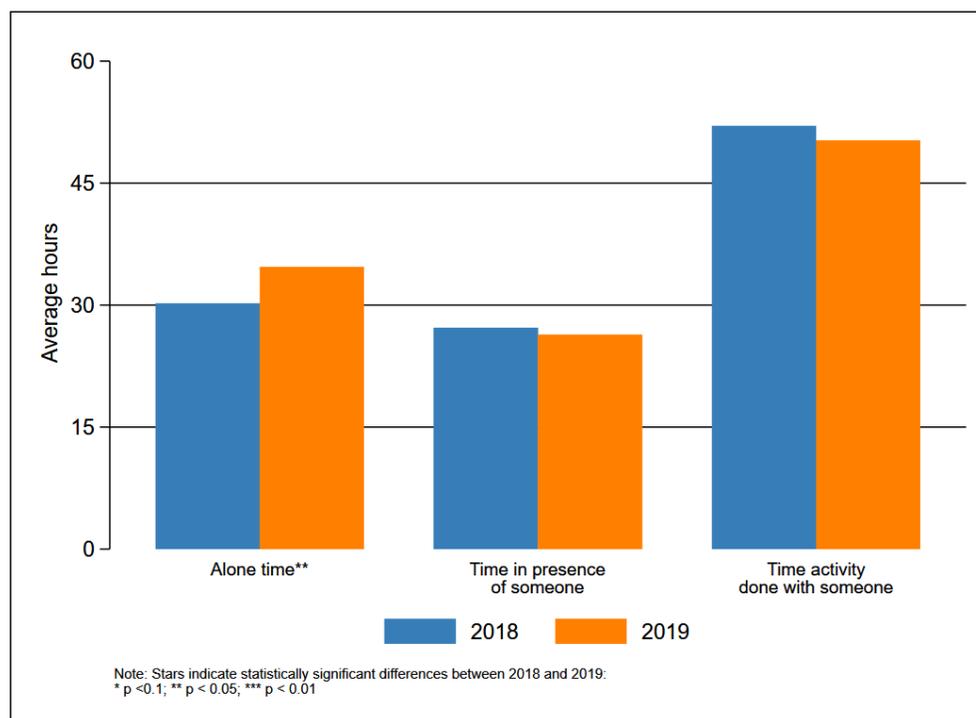
#### 4.5 Family and social life

An extra work-free day per week might make room for a more synchronous free time with family and friends. Time with the family is important for the satisfaction of parents and enhances the quality of family life (Zabriskie & McCormick, 2001). In addition, the shorter workweek could also lead to a better alignment of work and family time. For these analyses, we initially split up the activities in three groups, based on the diary context questions of who was present and who they did the activity with:

- activities done alone, with no one else present;
- activities where someone else was present, e.g. in the same room;
- activities done together with one or more persons, e.g. playing a game together or talk.

In 2019 the employees of Femma spent more time alone, without anyone else present, and spent a little less time with someone present or together with someone else (see Figure 5). Looking at the overlap between co-presence and activities (results not shown), a bigger share of paid work, care, social participation, leisure and waiting was spent alone in 2019, compared to 2018. Household work, on the contrary, was more often done with someone else in 2019.

**Figure 5:** Mean duration per respondent per week for alone time, time in presence and together with others for all employees by year



In 2019, the ‘36 hours’ group spent more time in total on activities that they did together with their children, but spent less time on activities together with their partner, partner and children, family, friends and work contacts. The ‘28 to 34 hours’ group spent more time on activities

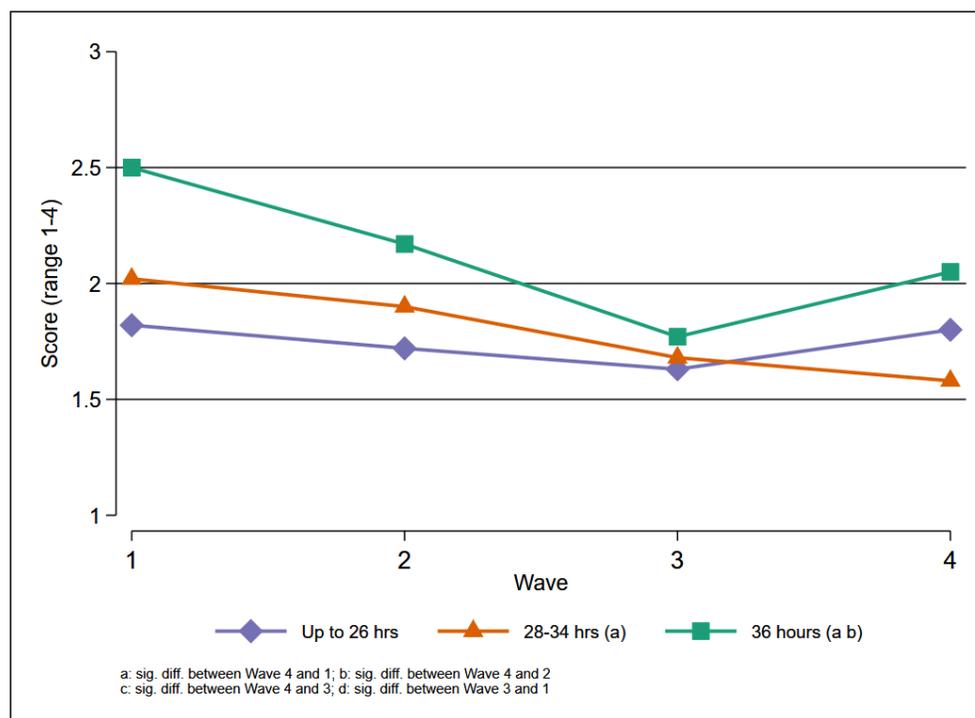
together with their partner, children, household (partner and children) and work contacts. Especially for the groups with resident children younger than 18, we find an increase in the combination of social participation with personal care. These are often moments where they take the time to eat together with their children. There was more time for this in 2019.

More (quality) time with children probably contributed to the rise in the scale of the experienced quality of the time and the bond with their children in 2019 (see the Appendix for information about the items used to construct this scale). These employees indicate to have experienced a better bond and nicer time with their children in 2019, scoring 4.22 in Wave 4 compared to 3.85 in Wave 1 (range 1-5).

#### 4.6 Mental health and work-life balance

A good *work-life balance* increases job satisfaction, mental health and general wellbeing (Fagan et al., 2012). In addition, a good *work-life balance* is associated with lower time pressure (Fast & Frederick, 1996). Spending less time in paid work can improve the combination of work and private life. Figure 6 shows the work-to-life conflict scale over the four waves for the different groups based on working hours in 2018 (see Appendix for information about the items used to construct this scale).

**Figure 6:** Scale work-to-life conflict (7 items, range 1-4) over the four waves for the different groups



We see a substantial and significant decline in work-to-life conflict of the '36 hours' group and the '28 to 34 hours' group. As we do not find a difference for the 'up to 26 hours' group, this decline could be due to the reduction in working hours. The satisfaction with the work-life balance,

measured with one question: ‘Are you satisfied with your work-life balance?’, also shows an improvement in 2019, especially for the ‘36 hours’ group. Thanks to the shorter workweek, the employees experienced a better balance and less conflict. Although the work-life balance has improved for the ‘36 hours’ group in 2019, they only just then reached the level of balance and conflict that the groups with less working hours have or even stay a little lower still.

In this experiment, we did not find differences in general happiness or experienced sleep problems. The scale of ‘mental exhaustion’ (a dimension and important indicator of burnout), on the other hand, did show a small but significant decline for the total group of employees. This means that employees were less at risk of having a burnout during the experiment compared to March 2018. It is unclear if this is attributable to the shorter workweek as we do not find this significant decline in the different groups based on their actual working hours.

## **5. Conclusion and discussion**

In 2019, Femma vzw, a women’s organisation in Belgium, experimented with a 30-hour workweek. As part of this experiment, all full-time employees changed to a 30-hour full-time week. Part-time employees who worked less than 30 hours maintained their working hours in 2019. Some of those who normally worked 28 hours chose to work 30 hours instead. During this experiment, almost all employees took one additional non-work day in the week, namely Wednesday or Friday. Because they worked less overall, and a little more from home, the time spent on work-related travel also decreased. The extra free hours were spent mostly on household work, care and personal care. The ‘36 hours’ group (those working full-time who went from 36 hours in 2018 to 30 in 2019) also spent substantially more time on leisure and media.

At the start of the 30-hour workweek experiment, the employees had clear wishes and expectations about what they wanted to do with their extra time. Above all, the wish for more personal time (me-time, sports, healthy living) was high. Although the employees indicate that the reality did not entirely meet the expectations, we see that they did have some more time to be alone and to do calm, in-home leisure activities. Their leisure time was mainly focused on themselves. This is reflected in a focus on activities such as reading, watching television, etc. These findings are in line with research on women’s leisure activities in the 35-hour workweek in France (Méda & Orain, 2002). Some employees wished for more time with their children, which is reflected in the time-use data. The extra time together with children is mostly filled with routine everyday activities such as household work, care, eating together and talking that is done with children. This increase in shared time is also reflected in a better quality of time and relationship with the children, which corresponds to other research (Zabriskie & McCormick, 2001). The reduction of working hours in France in 2000 also made room for more qualitative time with children (Fagnani & Letablier, 2007). In our data, we did not find any evidence of the insatiable amount of leisure possibilities causing stress, like Glorieux et al. (2010) mentioned. Femma employees did experience less leisure time pressure and spent their extra leisure time on calm/in-home activities. The fact that almost all employees took their free hours in one extra free day, a weekday when children go to school, many friends and family have to work and not all leisure activities are

available, might explain why they did not really feel the pressure to fill this time with all possible leisure activities.

Although the wish to spend more time on household work was limited, we did see that far more time was spent on household-related activities, as well as care-related activities in 2019. Based on research on women working part-time (Glorieux & van Tienoven, 2016), we had expected Femma employees (almost all women) to spend some more time on unpaid work. Employees with (young) resident children spent more time on childcare, whereas employees with no young children spent more time on informal care. Many of these household and care tasks were done with more pleasure, and were less frequently combined with secondary activities in 2019. This results in a more relaxed feeling and a reduction of stress with regards to household work. However, employees do perceive themselves taking up a somewhat bigger share of the household work in 2019 compared to their partner. Regarding satisfaction with the division of household work, some employees are as satisfied as before, while others are less satisfied. After all, their partner did not reduce his/her paid working time. The working time reduction of spouses could be a perfect alibi for a more unequal and more traditional division of household and care work between couples.

The implementation of the shorter working week did not cause the employees to work faster. The work tempo was stable over the waves. Which is a sign perhaps that the implementation was done well (Enehaug, 2017). However, we did see a decline in quality of the work atmosphere and the pleasure in work for some teams. These teams had more trouble with the trajectory of reorganisation and the self-management, introduced before the 30-hour workweek, than expected. On the other hand, we found a small increase in satisfaction with work activities for the two groups that decreased their working hours.

In their private life, employees experienced a decrease in pressure and stress. Next to a reduction in household stress, feelings of time pressure in their personal (leisure) time decreased. In general, employees were more satisfied with their work-life balance and employees that did reduce their working hours experienced a reduction of work-to-life conflict in 2019 compared to 2018. This is in line with other research (e.g. White & Beswick, 2003). Overall, we can agree with findings of Burchell et al. (2007), that a decline in working hours and the possibility to work time- and place independent have the potential of having positive effects on personal and family life.

The major strength of our study is its longitudinal character and the detailed information we have of the time use of most employees involved in the experiment before and during the working time reduction. A limitation is that the reduction in working hours only took place for the almost exclusively female employees of this one organisation. So, within the household, it was an individual reduction for one partner. This can be compared to part-time work that is more salient among women and which sharpens the traditional division of household and care tasks (Glorieux & van Tienoven, 2016). However, unlike part-time work, these employees did not lose any income and were advised of the ‘dangers’ of not thinking about how to spend their time. This focus on what they wanted to do with their extra time probably made them dream about an ideal life in which they had time for themselves, their partner and children, exercise, hobbies etc. The reality showed to be less ideal and constrained still by time and schedules of others. Nevertheless, the employees felt that they could take things a little slower, focus on one activity at a time, make

more room for (quality) time with their children or loved ones and even had some spare time to themselves, within the often tight schedules of a household. What would have happened if this was an all-male organisation experimenting with shorter working hours? Would men have picked up household tasks as easily as these women did? Would they have started new leisure activities? Unfortunately, we are not able to answer these questions. Research on the implementation of the 35-hour workweek in France in the early 2000s (e.g. Pailhé, Solaz & Souletie, 2019) is better equipped to look into these aspects. Yet, this study brings insights into how (highly educated) women deal with and experience (an organisational collective) shorter workweek, and how this has affected the organisation they work in. In future research we will further our analyses of the data including the in-depth interviews with some of the employees and their partners, to get even deeper insights into the impact of a working time reduction on these women and their lives.

## Acknowledgements

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## Appendix

Scale	Items	Range possible answers
<b>Work atmosphere</b>		Range 1-5: completely disagree – completely agree
	Femba knows a good team spirit and collegiality	
	The work atmosphere within Femba is good	
	I can ask my colleagues for help if needed	
	Ideas can be expressed openly without being judged for them	
<b>Pleasure in work</b>		Range 1-4: never - always
	I find it pleasant to start the workday	
	I still find my work fascinating, every day again	
	I have fun working	
	I can say that I look up to my work	
	I love the challenge in my work	
	I have the feeling that my work is meaningful	
<b>Work tempo</b>		Range 1-4: never - always
	Do you have to work fast?	
	Do you have too much work?	
	Do you have to work extra hard to finish something?	
	Do you work under time pressure?	
	Do you have to hurry?	

Do you have to deal with backlog in your work?

Would you like to slow down in your work?

**Household stress**

Range 1-5: completely disagree – completely agree

There are moments that I am short of hands in the household

I feel stress when I think of all the household chores that still have to be done

I often postpone my household chores

The time for the household work is planned and fixed in advance

**General time pressure**

Range 1-5: completely disagree – completely agree

I never have some time for myself

A day consists of too little hours

Too much is expected from me

I often have to cancel plans

I must do more than I want to

I never get finished

I do not have time to do the things I must do

I am expected to do more than I can handle

I often am not able to do the things I like to do in my leisure time

Too often I must take others into account during my leisure time

I find it hard to relax during my leisure time

It costs me a lot of effort to plan my leisure activities

There are so many things I would like to do during my leisure time that I often feel short of time

Too many of my leisure activities are fragmented

**Leisure time pressure**

Range 1-5: completely disagree – completely agree

I often am not able to do the things I like to do in my leisure time

Too often I must take others into account during my leisure time

I find it hard to relax during my leisure time

It costs me a lot of effort to plan my leisure activities

There are so many things I would like to do during my leisure time that I often feel short of time

Too many of my leisure activities are fragmented

<b>Quality time and relationship children</b>	Range 1-5: completely disagree – completely agree
	I can enjoy the time I spend with my child(ren)
	I do not see the time I spend on childcare as ‘work’
	I have a good relationship with my child(ren)
<b>Work-to-life conflict</b>	Range 1-4: never - always
<i>How often does it happen that...</i>	your responsibilities at work have the upper hand on your private life?
	you worry at home about problems at work?
	you experience difficulties with childcare due to your work?
	you feel less involved with your family/friends because of the requirements of your work?
	you feel that you lag behind the events at home?
	you have so much work to do that you do not have time for your hobbies?
	the requirements of your work make it hard to relax?
<b>Mental exhaustion</b>	Range: 1-7 never – every day
	I feel mentally exhausted because of my work
	At the end of the day I feel empty
	I feel tired when I wake up in the morning and a new working day is starting
	I feel ‘burnt-out’ because of my job
	I feel frustrated because of my job
	I think I’m too committed to my work
<b>Sleep problems</b>	Range 1-4: never - always
	I often get up during the night
	I usually toss and turn at night
	I wake up multiple times during the night
	It feels like I only sleep a couple of hours
	I think I sleep well at night
	I feel like I am lacking sleep
	When I wake up in the night, I have a hard time falling back asleep
	I feel well rested after I get up

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