



The Four Day Week:

Assessing global trials of reduced work time with no reduction in pay: Evidence from Ireland



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The research team



Dr Orla Kelly



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This research was done through an international collaboration with researchers at Boston College (USA), University College Dublin (UCD, Ireland), and Cambridge University (UK). The team consists of faculty, graduate students and undergraduates, all of whom made significant contributions to the research process, which involved the development of the surveys, organising the data collection, communicating with the companies and analysing the data. Professor Kelly and her team at UCD took the lead on the Irish trial, which began in February 2022. Professors Schor and Fan, along with PhD candidate Guolin Gu at Boston College, took the lead on the US trial. All faculty and graduate students took part in designing the surveys. Guolin Gu (Boston College) did the bulk of survey logistics, data analysis and communication with non-Irish companies. Tatiana Bezdenezhnykh (UCD) did the same for the Irish companies. Niamh Bridson Hubbard (Cambridge) took the lead on the midpoint survey time diary. Professors Fan, Kelly and Schor, directed the research at all stages.

Executive summary

Research suggests that worktime reduction is a multi-dividend policy that can improve human wellbeing, organisational performance, and environmental outcomes. Social benefits include reduced stress and burnout for employees and more time for family, community, and self. Economic benefits depend on the form of worktime reduction. Where it is accomplished without loss or even gains in productivity, it is beneficial for companies' bottom lines. Environmental benefits can accrue reduced energy expended in commuting, especially with four-day work weeks; increases in low carbon but time-intensive practices for households; and reduced carbon emissions due to trading income for a time.

As the most popular form of worktime reduction, a four-day, 32-hour workweek has been gaining momentum in recent years. Given this growth in interest, Four Day Week Global (4DWG) began supporting companies and non-profit organisations that wanted to try a four-day, 32-hour workweek with no reduction in pay. Boston College leads the research team in partnership with University College Dublin, Cambridge University and other academic partners. We are constructing a sizeable quantitative database of employee outcomes across different countries and types of companies and organisations. We collected data on time use, subjective wellbeing, physical and mental health, labour market behaviour, and energy use with a wide-ranging instrument.

In February 2022, 4DWG launched the first of several coordinated international trials. It involved 614 employees across Ireland, the United States, Australia, and New Zealand. The research involved (i) surveying employees at the beginning, midpoint and end of the trial, (ii) compiling time-use diaries of employees' days off, (iii) collecting monthly data on organisational performance and (iv) interviewing employees and managers at the end of the trial¹.

This report presents detailed results of a subset of Irish organisations and their employees participating in the trial. This group comprised 12 small to medium enterprises, primarily concentrated in the IT and professional services sectors.

The **key findings** are as follows:

All 12 companies completed a final survey in which we asked about their overall experience and whether they would continue with the four-day week.

- Nine are definitely continuing with the new schedule, and the remaining quarter (three) are planning to continue but haven't yet committed to keeping it long-term
- On a scale of 0-10, from very negative to very positive, the companies' average rating for their experience of the trial is 9.2
- Asked about how the trial affected their overall company performance, the average score was 8.2 out of 10
- Companies rated employee productivity over the course of the trial as 7.6/10.

Several companies also provided records of organisational performance data for the trial period and a comparable previous year. Based on an analysis of these data, we found:

- Six out of seven companies reported their monthly revenue growth, with one seeing a decline
- Six out of the ten companies who provided data on staff numbers increased their staff numbers, while two companies maintained and two others decreased
- Among the companies that provided data on sick and personal days, the number fell in four and increased in three organisations
- Two organisations recorded changes in energy use and both found reductions
- Four organisations tracked company industry-specific productivity metrics, and all observed improvements.

1 For full results on the first global trials see Schor, Juliet B., Wen Fan, Orla Kelly, Guolin Gu, Tatiana Bezdenezhnykh, Niamh Bridson-Hubbard, 2022, "The Four Day Week: Assessing global trials of reduced work time with no reduction in pay," Four Day Week Global, Auckland, NZ.

Based on the employee surveys and interviews, we found:

- 100% of employees want to continue on a reduced work schedule
- Employees' self-rated performance, compared to their lifetime best, rose from an average score of 7.16 at baseline to 7.72 by the end of the trial
- We found statistically significant improvements across a wide range of wellbeing metrics, including positive affect, work-family and work-life balance, and several domains of life satisfaction
- Conversely, stress, burnout, fatigue, and work-family conflict significantly declined
- Average sleep time increased from 7.02 hours a night to 7.72 hours. Sleep deprivation (less than 7 hours of sleep a night) decreased from 34% of respondents to 9%
- Employees used their day off for hobbies, household work and personal grooming. Time doing hobbies grew by 36 min a week on average. Length of time spent exercising per week also increased
- We observed an increase across three forms of pro-environmental behaviour: activities (recycling, buying eco-friendly, walking and cycling over driving), education (encouraging others and educating oneself about the environment) and volunteering
- The trial was particularly successful for women. They reported a significantly greater improvement in life satisfaction, had larger gains in sleep time, and reported feeling more secure in their employment.



1. Introduction

It is increasingly clear that the pandemic has taken a heavy toll on workers. According to Gallup's annual State of the Global Workplace report, psychological stress reached an all-time high in 2021, exacerbating a pre-pandemic trend toward increased burnout and stress. The report also revealed that 60% of employees felt emotionally detached from their jobs last year, while almost a fifth described their time at work as miserable. In Ireland, 48% of employees reported feeling "a lot of stress" daily².

One response to these developments is worktime reduction (WTR). A growing body of evidence suggests that WTR can promote human wellbeing³, even across a wide range of socio-economic groups⁴. Reduced worktime has long been promoted as a multiple dividend reform – it has the potential to bring social, economic and climate benefits. Social benefits include reduced employee stress and burnout and more time for family, community, and self. Economic benefits depend on the form of worktime reduction. Where it is accomplished without loss or even gains in productivity, it is beneficial for companies' bottom lines⁵. When it is accompanied by increased hiring, it can reduce unemployment. It can also reduce costs in tight labour markets or situations where employees are experiencing high levels of stress and burnout. Over the last decade, Icelandic and Swedish governments have supported WTR trials, with results suggesting a more rested, happier and less stressed workforce⁶. Climate benefits include reduced energy expended in commuting, especially with four-day work weeks⁷; increases in low carbon but time-intensive practices for households; and reduced carbon emissions due to trading income for time⁸.

As the most popular form of worktime reduction, a four-day, 32-hour workweek has been gaining momentum in recent years. Given this growth in interest, 4 Day Week Global (4DWG) began supporting companies and non-profit organisations who wanted to try a four-day, 32-hour workweek with no reduction in pay. In 2022, their efforts led to the world's first coordinated trials and the large-scale independent research effort on the impacts of a four-day week.

Beginning in February of 2022, 4DWG began the first of a series of trials with companies instituting a reduced workweek with no reduction in pay. The trials are six months, plus an additional two-month onramp, during which the companies prepare for the scheduling change by attending workshops, getting coaching and mentoring, and being part of a peer support network. By the time they start a trial, the companies are well prepared to institute a significant scheduling change. While most companies instituted a four-day, 32-hour schedule, with a typical day off – usually Friday – some opted for different configurations. To join the trial, companies must commit to maintaining the same pay and enacting meaningful worktime reduction. In the first wave of pilots, 16 private sector organisations adopted a four-day workweek with no reduction in pay. The trial included a total of 614 employees located across Ireland, the United States, Australia, and New Zealand.

Using email addresses supplied by the participating organisation, we (the Four Day Week research team) contacted company employees. We asked them to complete the baseline pretrial survey at the end of January 2022. A follow-up survey was conducted at the trial's midpoint in April 2022. We administered the endpoint survey in August 2022. To understand how participants spend their additional days off, we constructed a time-use diary which respondents were asked to use in the midpoint survey. We also interviewed employees and managers at the end of the trial period to gather qualitative insights into their experience of reduced work time.

We examined factors related to workplace wellbeing (including job satisfaction, burnout and turnover intention), work-family balance, life satisfaction, self-rated health and sleep outcomes. Where possible, we used well-established scales validated in cross-national research, including questions from the European Working Conditions Survey, the European Union Survey on Income and Living Conditions (EU-SILC) and the Copenhagen Burnout Inventory. For time-use analysis, activities were allocated into four main groups: paid work, household work and caring, personal maintenance, and leisure.

2 Gallup, Inc, "State of the Global Workplace: 2022."

3 Coote, Harper, and Stirling, *The Case for a Four-Day Week*; Lepinteur, "The Shorter Workweek and Worker Wellbeing"; Parrique, "The Political Economy of Degrowth."

4 Persson, Larsson, and Nässén, "Working Less by Choice."

5 Barnes, "Guidelines for an Outcome-Based Trial – Raising Productivity and Engagement."

6 Alderman, "In Sweden, an Experiment Turns Shorter Workdays Into Bigger Gains."

7 Office of the Legislative Auditor General, State of Utah, "A Performance Audit of the Working 4 Utah Initiative."

8 Fremstad, Paul, and Underwood, "Work Hours and CO2 Emissions."

The trial has been a resounding success in virtually every dimension. The companies are extremely pleased with their performance, productivity and overall experience. Almost all participating companies have already committed or plan to continue with the four-day week schedule. Their performance metrics show improvements. Employees are similarly enthusiastic. Climate impacts, while less well-measured, are also encouraging. Our detailed findings, based on more than 60 outcome variables, show that the results are overwhelmingly positive. They are also substantially large⁹.

The following pages detail the findings of the companies in Ireland that participated in the first wave of global trials. The research team has produced them all, and this report is written by its members. The team is fully independent of 4DWG and received no funding from the organisation. The Irish team received support and funding from the Four Day Week Ireland campaign. All of the research has been produced by our independent academic team. This report is written by its members, and the relevant ethics boards have approved our university research protocols.

We begin with a brief overview of the existing literature on worktime reduction. Next is a section on how the trials were run, and then descriptive information on the companies and employees in our sample – the industries represented, the size of the companies, and employees' socio-demographic profiles. We then present our results, starting with findings from company metrics. Based on the surveys and interviews with employees, we divide the rest of the findings into the following sections: Work and employment; Health and wellbeing; Time use and care work; and environmental footprint and behaviour. We conclude by briefly discussing the broader implications of the findings for the future of work.

9 For full results on the global trial see Schor, Juliet B., Wen Fan, Orla Kelly, Guolin Gu, Tatiana Bezdenezhnykh, Niamh Bridson-Hubbard, 2022, "The Four Day Week: Assessing Global Trials of Reduced Work Time with No Reduction in Pay," Four Day Week Global, Auckland, NZ.

2. Why a four-day week?

2.1 Findings from previous studies

Researchers have long been interested in how working hours affect wellbeing and economic performance. Worktime reduction (WTR), and the four-day week more specifically, is considered a triple-dividend reform with social, economic and climate benefits. There is abundant evidence that long working hours are bad for human health, with a recent WHO/ILO review finding associations with higher rates of heart disease and stroke¹⁰. Conversely, a growing body of evidence finds that worktime reduction has positive health impacts on individuals and is economically viable for employers even when not accompanied by cuts in pay. Over the last few decades, Nordic governments have conducted successful WTR experiments. At Swedish social work agencies and other Swedish government offices, WTR yielded major impacts on exhaustion, stress, work-family conflict, and the quantity and quality of sleep¹¹. Finnish experiments had similar findings¹². The largest trial of WTR before ours, with 2500 government employees, was carried out in Iceland from 2015–2019. Participants reported less stress and work-family conflict, more energy, and higher wellbeing at work, compared to control sites, which did not show these improvements. This trial received considerable global attention, partly because results also showed either stable or higher productivity alongside revenue neutrality¹³. In Japan and Korea, reductions in the workweek from 48 to 40 and 44 to 40 hours, respectively, improved the life satisfaction of affected workers and their spouses¹⁴. Similarly, after introducing the 35-hour week in France, researchers identified significantly positive effects of shorter work weeks (without pay reductions) on workers' subjective health¹⁵.

There is also a growing body of literature showing associations between shorter hours of work and lower carbon emissions¹⁶. Analyses based on comparisons across countries and US states find that hours and emissions correlate positively¹⁷. Household studies also show that working hours are positively related to household emissions¹⁸. Similarly, studies of four-day, compressed weeks (four, ten-hour days) find that reduced commuting yields lower energy expenditures¹⁹.

10 Pega et al., "Global, Regional, and National Burdens of Ischemic Heart Disease and Stroke Attributable to Exposure to Long Working Hours for 194 Countries, 2000–2016."

11 Barck-Holst et al., "Reduced Working Hours and Stress in the Swedish Social Services."

12 "Anttila, Timo, and Jouko Nätti. 1999. 'Experiments of Reduced Working Hours in Finnish Municipalities.' Journal of Human Resource Costing & Accounting 4 (2): 45–61. = - Google Search."

13 Haraldsson and Kellam, "Going Public; Iceland's Journey to a Shorter Working Week."

14 Hamermesh, Kawaguchi, and Lee, "Does Labor Legislation Benefit Workers?"

15 Bakker and Demerouti, "The Job Demands-Resources Model."

16 Knight, Rosa, and Schor, "Reducing Growth to Achieve Environmental Sustainability."

17 Fitzgerald, Schor, and Jorgenson, "Working Hours and Carbon Dioxide Emissions in the United States, 2007–2013."

18 Fremstad, Paul, and Underwood, "Work Hours and CO2 Emissions."

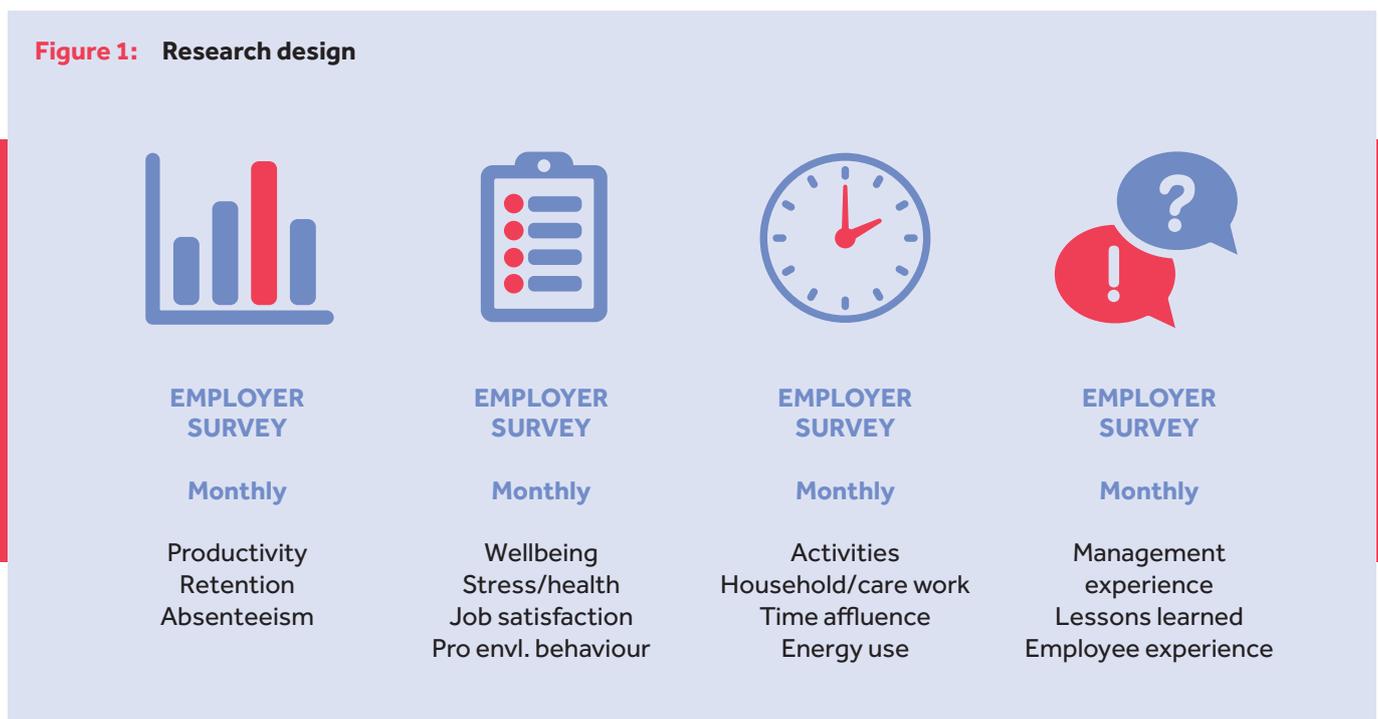
19 Office of the Legislative Auditor General, State of Utah, "A Performance Audit of the Working 4 Utah Initiative."

3. Research design

In 2021, 4Day Week Global (hereafter 4DWG) began recruiting companies and non-profit organisations (hereafter referred to as “companies” or “organisations”) to participate in six-month trials. The first trial, which involved 12 Irish companies (and four outside of Ireland), was launched by the Four Day Week Ireland campaign and began on February 1, 2022. Additional trials were organised by 4DWG and launched on April 1 (the US and Canada), June 6 (the UK), August 1 (Australasia), and October 1 (the US and Canada). From 2023 global trials will be launched every quarter. More than 150 companies and approximately 7500 employees are participating in or signing up for trials. The trials are based on the 100-80-100™ model in which companies allow employees to work 80% of their regularly scheduled time in return for 100% of their pay and a pledge to deliver 100% of their standard output (Barnes 2019). The model is based on a collective work reorganisation process in which low and zero-productivity activities are eliminated. Companies are not required to go for four days. However, they must keep pay constant and offer a **meaningful** work time reduction, with the smallest allowable reduction set at four hours. The trial's design involved two months of preparation, with workshops, coaching, mentoring and peer support, drawing on the expertise of those who had already implemented four-day weeks in their own companies and individuals who had helped companies with these schedules. Participation in these first two trials was free, although, in later trials, 4DWG has asked for a small donation to help defray the costs of running the trials.

In addition, the trials offered research conducted by independent academic researchers at Boston College, University College Dublin and Cambridge University to support this. The research consists of two parts: administrative data from companies and survey data from employees. For both types of data, we employed pre- and post-methodology. In the pre-trial phase, companies completed an “onboarding” survey with basic details about themselves. They provided six months of data to be used as a comparison with corresponding data collected during the six-month trial. Once the trial began, companies were asked to provide monthly data on a small set of standard metrics (revenue, absenteeism, resignations, new hires, and energy use) plus two optional individualised metrics. The absence of productivity or other performance metrics in the standard set was because the organisations in the trial vary considerably in what they typically collect. We also asked for self-reported productivity from employees.

Figure 1: Research design



The employee surveys were done at three points—immediately before the trial began (baseline), mid-way through the trial (mid-point) and at the close of the trial (endpoint). The survey was administered through Qualtrics, and the research team contacted employees via email using address lists supplied by the participating organisations. Separating the survey from the employer is an important part of the research methodology. By assuring employees that their answers are confidential and will be unavailable to their employers, we can better collect honest and accurate information. Only companies with enough employees to ensure the confidentiality of answers receive the survey data, and then only in aggregated form. The employee surveys at baseline and endpoint include questions covering work situation, wellbeing, family and personal life, and energy use. The mid-point survey is much shorter and consists of a small set of wellbeing questions and a time diary which asks respondents how they spent their most recent off-day. Where available, we used existing, well-validated scales to measure wellbeing, work situation and other outcomes. In other cases, we created our questions. We drew from the 25 harmonised activity codes in the Multinational Time Use Study (MTUS) user guide for the time diary. We adapted these activities slightly to suit our research needs, for example, splitting the “paid work” activity into “main paid work” and “other paid work” and adding an activity for “transit” between other activities. In Ireland, we also conducted post-trial semi-structured interviews with employees. The interviews explored how the new work schedule affected employees’ lives inside and outside the workplace. For those employees in managerial roles, we asked how and if the new work schedule affected those responsibilities.

3.1 Company sample

In total, 16 companies participated in the January trial. The companies vary in size, ranging from three to 409 employees. Of those organisations, 12 were small to medium Irish enterprises. As Table 1 illustrates below, the 12 participating companies employed 188 people at baseline. The largest group is from the administrative, IT and telecoms sectors. All the organisations opted to have employees work one less day per week. In four of the organisations, all employees had Fridays off; in the other organisations, employees did not all have the same day off.

Table 1: Profile of participating organisations in Ireland

| | | |
|---|---------------|-------------------|
| Total number of companies | 12 | |
| Average sizes (no. of employees) | 14 | |
| Industry | Number | Percentage |
| Manufacturing | 1 | 8.3% |
| Admin, IT and telecom | 5 | 41.7% |
| Professional services | 2 | 16.7% |
| Art, entertainment | 1 | 8.3% |
| Educational services | 1 | 8.3% |
| Other services | 1 | 8.3% |
| Other, not specified | 1 | 8.3% |

3.2 Irish employee sample

We turn now to the socio-demographic characteristics of the employee sample in Ireland. This is a broadly balanced sample in terms of gender composition, with 58% self-identifying as women, 42% as men. The ethnic composition of our sample is as follows; 85% identify as White, 5% as Asian, 1% as Black, 5% as other/mixed ethnicity, and the remaining participants did not specify.

This is a relatively young sample; more than half of the respondents are below age 35, 25% are between 35 and 44, and about 24% are 45 or above. Fully 76% of the sample have at least a bachelor's degree. Correspondingly, 11% of the sample are managers, and 78% are professionals, with the most commonly held occupations being information and communications technology professionals (37%), science and engineering professionals (15%) and business and administration professionals (14%). Two out of three employees in our sample are either married or living with a cohabitation partner, and 35% have at least one minor child living at home.

Table 2: Profile of employee respondents in Ireland

| Variable | | All participants (n=91) | Male sample (n=53) | Female sample (n=38) |
|----------------------------|----------------------|-------------------------|--------------------|----------------------|
| Parent | | 35.0% | 45.3% | 29.0% |
| Relationship status | Married or partnered | 78.0% | 81.1% | 73.7% |
| Education | College or above | 75.8% | 67.9% | 86.8% |
| Age | 18-24 | 9.0% | 9.6% | 8.1% |
| | 25-29 | 20.2% | 17.3% | 24.3% |
| | 30-34 | 23.6% | 19.2% | 29.7% |
| | 35-44 | 24.7% | 26.9% | 21.6% |
| | 45-54 | 16.9% | 21.2% | 10.8% |
| | 55-64 | 5.6% | 5.8% | 5.4% |
| Occupation | Manager | 11.0% | 7.6% | 15.8% |
| | Professional | 78.0% | 84.9% | 84.9% |
| | Other | 11.0% | 7.6% | 15.8% |

4. Company results

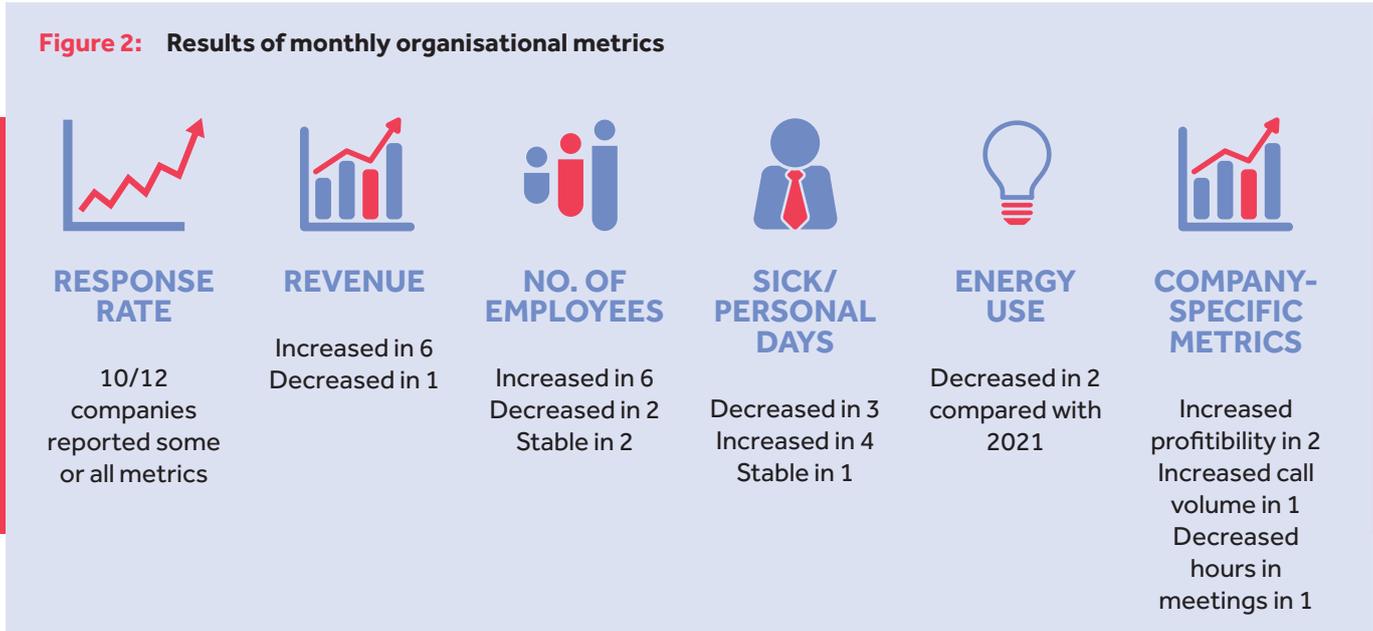
For the companies, the trial has been a success. All 12 companies completed a final survey in which we asked about their overall experience and whether they would continue with the four-day week. On a scale of 0-10, where zero is very negative and ten is very positive, they rated the trial a 9.2 on average. Asked about how their overall company performance was affected by the trial, the average score was 8.1. In response to a question about how their company’s productivity has been affected by the trial, the average score was 7.6. Overall, 75% are definitely continuing with the four-day week, and 25% are planning to continue but haven’t made a final decision yet. None are leaning against or not planning on continuing.

Table 3: Company attitudes and experiences with the trial

| Variable | Measure | Mean | N |
|-------------------------------------|--|-------|------------|
| Trial impact overall | 1-10 (very negative to very positive): how do you think the 4 Day Week Trial has affected your company overall | 9.2 | 12 |
| Trial impact on productivity | 1-10 (very negative to very positive): how do you think the 4 Day Week Trial has affected the productivity of your company | 7.6 | 12 |
| Trial impact on company performance | 1-10 (very negative to very positive): how do you think the 4 Day Week Trial has affected the performance of your company | 8.1 | 12 |
| | | Count | Percentage |
| Plans for the trial going forward | Definitely going to continue | 9 | 75% |
| | Planning on continuing but no final decision | 3 | 25% |

The foregoing are retrospective questions, asked at the end of the trial. We also collected data from the companies before they began, and all through the six months of the trial. Because the companies are so varied in their size, industry, and data collection practices, we confined the data collection to a small set of metrics that we thought every company would be able to provide. These were revenue, the number of employees in the company, total hours worked for all employees, resignations, new hires, and sick and personal days taken. 11 out of 12 companies reported some for February-July 2021 (pre-trial) and February-July 2022 (trial period). Out of seven companies that reported their monthly revenue, six indicated their growth, with one company seeing a decline in the metric compared to the previous year. Six companies increased their staff numbers, while two companies maintained and two others decreased the number of employees. The trial had a heterogeneous impact on the reported number of sick and personal days that declined for three, increased for four, and stayed the same for one company. We also asked about energy usage, but this data was compromised due to companies changing to remote working arrangements. In the end, only two reported their electricity consumption compared to the corresponding months of 2021. Both of these organisations had a decrease in energy consumption. Some companies provided company-specific performance measures. Specifically, two reported increased profitability, one increased the number of calls, and another organisation tracked weekly hours spent on meetings and also observed a decline.

Figure 2: Results of monthly organisational metrics



Our qualitative interviews with management confirmed that overall the experience had been positive, albeit not without some challenges; as Chris outlines below, offering a four-day week as a small enterprise is particularly advantageous for recruitment purposes.

"As a small company, we can't compete with all the huge big salaries. We also ask a lot of people; they wear a lot of different hats. Being able to offer this four-day week; it's a WOW when we're hiring people. Now, it might decline more and more as more companies come into this, but right now, the candidates usually react by saying something like. "I don't even know if I believe you! Are you telling me we have an extra day off every week? Really?"

A manager, Brenda, highlighted the positive impacts of the reduced work schedule on her management responsibilities due to increased employee motivation and initiative.

"I think my role of supervising and management has become smoother. It's a lot calmer. We're an awful lot more susceptible to change in the sense that, for example, if someone wants to split their day off, that's fine. There's more onus on the employees as well to make arrangements, which is great because the responsibility shifts to the employees, and it also gives people a considerable amount of autonomy."

Ann, a manager in a recruitment company, had reservations about the trial at the start but was similarly impressed by the gains in productivity.

"I was sceptical about how it would work because recruitment is not one of those jobs that are generally 9 to 5, and how we work with clients. But in terms of productivity, we're beating every target from the previous year, hands down. So if anything, reducing our working week has improved priority productivity to a level that it would be a very foolish decision to go back to 5 days".

Brian observed similar increases in employee motivation but noted that the organisation will be keeping on top of internal metrics to ensure that productivity does not wane over time.

"As a manager, my job has gotten easier because the reduced work time has motivated employees and increased morale. They know they could go back to five days if the arrangement stops working for the company. So, they work together to make sure that it does. But we will keep on top of KPIs to ensure motivation doesn't drop now that the official trial has ended."

This was a common theme among managers. As discussed in the next section, Chris also highlights the challenge of maintaining productivity gains in a high-growth environment.

5. Employee outcomes

In the previous section, we reported on how participating organisations experienced the trial.

We turn now to the data we collected from employees. When we note something “changed”, the difference between the baseline and endpoint values is a statistically significant change (rather than a random or meaningless change). Asterisks in the table refer to the level of confidence we have in the meaningfulness of the change. Small changes that are not statistically significant mean that we cannot determine that the before and after values are the same.

5.1 Employee work re-organisation

Our findings show that the trial changed the workplace in important ways. As expected, work time declined from 38.3 hours per week to 32.7. Although employees worked on average less than 40 hours a week, this is almost a complete reduction to 32 hours. In some companies, people were still doing some work on their day off.

Nevertheless, there was a significant average reduction of 6 hours of work. When measured by the number of people whose work time went down (or up), 83% of the sample experienced a decline in working hours, while 8.53% were working more.

Similarly, the average number of days worked went from 4.9 to 4.3. The frequency of overtime also fell. It’s also notable that the prevalence of remote working also declined a bit over the trial, from an average of 4.4 days per week to 3.4.

Table 4: Work and employment outcomes for employees

| Variable | Measure | N | Mean at baseline | Mean at endpoint | Δ (%) | Sig. |
|------------------|---------------------------------------|----|------------------|------------------|--------|------|
| Work time | Number of working hours per week | 87 | 38.3 | 32.7 | -17.2% | *** |
| Days working | Number of working days per week | 88 | 4.9 | 4.3 | -14.6% | *** |
| Remote work | 0-2 (never to fully) working remotely | 88 | 1.7 | 1.5 | -14.5% | *** |
| Remote work days | Number of days working remotely | 82 | 4.4 | 3.4 | -29.0% | *** |
| Overtime | 1-4 (never to daily) | | 2.25 | 1.76 | -27.8% | *** |

^+p<0.1, *p<0.05, **<0.01, ***p<0.001 using paired-sample t-tests

At the end of the trial, we collected some data from employees about their participation in the trial. We found that 91% of all employees did reduce their worktime. For those who reduced work time, 95% reported that they had gone to a four-day week schedule, and the remaining 5% had shifted to alternative reduced time schemes. We asked how often they could take that fifth day off (reduced work time frequency). Of those who reduced worktime, 87% reported that they got it off every week, and another 8% got a day off every two weeks. The remaining 5% were either once a month or less.

Table 5: Employee reports of work time reduction at trial end

| Variable | Measure | Mean/Perc. |
|---------------------|--|------------|
| Trial participation | Percentage reduced worktime | 91% |
| WTR arrangement | Percentage with one day off per week (out of employees on WTR) | 95% |

When we consider the quality and experiences of work during the trial, a few things stand out. First, we asked employees how their current work ability compared to their lifetime best. Current work ability, measured on a 10-point scale via responses to the question: *“thinking about the last four weeks, how would you rate your current work ability when you compare it with your lifetime best?”* Before the trial began, the average self-rated ability was 7.16 on a scale from 0-10. At the end of the trial, it had risen to 7.72, a statistically significant shift. People felt they were more productive and doing better at work with the change to a four-day week.

In the interviews, employees indicated that they became more conscious about their time management to fit a five-day volume of work into four days. Almost every interviewee mentioned that they reconsidered meeting practices, making them shorter and more structured, as the quotes below illustrate.

“Smart quick and get the job done.” - Fiona

“I will never schedule a meeting for an hour. I will schedule a meeting for either twenty-five minutes or forty-five minutes.... I'm working more productively. I'm working much smarter. I have been more focused throughout the day. I'm not getting to one o'clock and having a slump.” – Brenda

For many participants, increasing efficiency did not require a wholesale reorganisation of practices but rather smaller scale change.

“We didn't have to reshape how we worked. It was more that we had to decide between us how to structure our days and our client work more efficiently.” - Brian

Others reflected that the increase in productivity is partly due to being more strategic in terms of their organisational skills, as the employees below describe.

“I guess I've been a lot more careful with my calendar. It is one thing in terms of planning, focus time or identifying my priorities for the work week ... So it's made me much more proactive in planning. And yeah, not accepting every meeting that comes in.” - Chris

Several employees also commented that strategic changes at the organisational level, helped the employees to become more productive, as the quote from Brenda below illustrates.

“The organisation has changed too. We had a very reactive way of working... We were very used to being very busy all the time, and that was an issue. If you weren't wrecked by Friday evening, you hadn't done a proper week's work. Now we have shifted away from that to be much more strategic and effective in terms of the types of clients we take on and the work that we do for them”.

Table 6: Workplace experiences: What changed

| Variable | Measure | N | Mean at baseline | Mean at endpoint | Δ (abs) | Δ (%) | Sig. |
|----------------------|--|----|------------------|------------------|---------|--------|------|
| Current work ability | 0-10 (very poor to very good) | 87 | 7.16 | 7.72 | 0.563 | 7.3% | ** |
| Schedule control | 1-5 (very little to very much), four items | 86 | 3.84 | 3.81 | -0.023 | -0.8% | |
| Turnover intentions | 1-5 (strongly disagree to agree strongly) to the statement, "I am seriously considering quitting or changing my current job" | 86 | 2.24 | 2.01 | -0.233 | -11.4% | + |
| Second job | Percentage with a second job | 86 | 0.17 | 0.12 | -0.058 | -41.7% | + |

^+p<0.1, *p<0.05, **<0.01, ***p<0.001 using paired-sample t-tests

We found an increased level of control over their schedule. This is a multi-item scale from 1-5, which includes control over days worked, number of hours, time off work and when each workday begins and ends. There is evidence of reduced turnover intentions by 11% and a decrease in the share of workers with second jobs from 17% to 12%.

In addition, some other dimensions did not change, which is a welcome finding. Perhaps most importantly, on average, the four-day week did not lead to an increase in the intensity or pace of work, as measured from baseline to endpoint. The sample was split roughly evenly into three groups on this measure. While just over a third of employees did register an increase, nearly as many had a decline, and the remainder had no change in their work intensity. In conjunction with reports from the company, this suggests that the process of work re-organisation, and reductions in unproductive time, was mostly successful.

This means that productivity and performance were not achieved via speedup, which is not generally a sustainable or desirable strategy. We also found that the complexity of people's work didn't rise on average, which is another kind of intensification. Just over 42% did have some increase in complexity, but 38% had a decrease, and the remainder had no change. Another reassuring finding is that employees did not experience increased job insecurity, nor were they more likely to be intending to leave their jobs. Women, in fact, reported increased feelings of job security, as will be discussed in the next section. Somewhat surprisingly, self-reported absenteeism did not decline. And a very welcome finding from a wellbeing perspective is that people did not use their day off to take on a second job—there was no increase in this measure.

Table 7: Workplace experiences: What didn't change

| Variable | Measure | N | Mean at baseline | Mean at endpoint | Δ (abs) | Δ (%) | Sig. |
|------------------|---|----|------------------|------------------|---------|--------|------|
| Work intensity | 1-5 (never to all the time), two items: working at very high speeds, working to tight deadlines | 86 | 3.47 | 3.41 | -0.06 | -1.8% | |
| Work complexity | 1-5 (never to all the time), six items | 86 | 3.69 | 3.70 | 0.01 | 0.3% | |
| Job security | 1-4 (very to not at all) likelihood of being laid off | 85 | 3.64 | 3.66 | 0.02 | 0.5% | |
| Work absenteeism | 0-4 (0 to 10+ days absent from work due to sick or health-related leave in past 4 weeks) | 85 | 0.16 | 0.14 | -0.02 | -14.3% | |

^+p<0.1, *p<0.05, **<0.01, ***p<0.001 using paired-sample t-tests

We also added a few retrospective questions in the endpoint survey, in which we asked people to look back to the beginning of the trial and tell us how they thought things had changed. One difference from the before-and-after findings discussed above stands out: There was a reported increase in the pace of work. Over half of employees thought their pace of work increased, just over 36% thought it was the same. (A small group (4%) felt it decreased.) The original question (reported above) is a two item scale that references working at very high speeds and to tight deadlines. So wording may account for the different results. It's also possible that the pace of work was a bit higher, but people had already adjusted, and it no longer felt more intense, so the level from baseline to endpoint did not rise.

Similarly, respondents retrospectively registered a statistically significant, slight increase in the workload, although about three-quarters reported no change.

Table 8: Retrospective questions on how employees experienced the trial

| Variable: | Measure | N | Mean | Sig [^] |
|---|--|----|------|------------------|
| "As a result of the trial, did the following change for you?" | | | | |
| Change in work pace | (-1) decrease, 0 no change, 1 increase | 85 | 0.56 | *** |
| Change in workload | (-1) decrease, 0 no change, 1 increase | 85 | 0.14 | ** |

***p<0.001

Another set of retrospective questions asked people about their overall experience of the trial. On a 1-10 scale where zero was very bad, and ten was very good, the average score was 9.4, a very high level of satisfaction. When asked if they wanted to continue, 100% said 'yes'; they definitely wanted to continue.

Table 9: Overall experience with the trial and desire to continue

| Variable | Measure | Mean |
|-----------------------------------|--|------|
| Overall experience with the trial | (1-10 with 1 being extremely negative and 10 extremely positive) | 9.4 |

The desire to continue the new reduced work time schedule was universally echoed in the qualitative interviews as the quote below from Carol illustrates:

“Life has gotten so much better, just a much better balance like, Oh, my God! Like, I don't know how people who don't have it can function. Honestly, even now, when I look back on my own life, I'm like, how was I able to manage to do anything like? Especially when you work a full-on and intense job. [before the four-day week] I didn't feel I had the time or capacity for all the other parts of my life that needed attention. Having that extra day is a game-changer!”

5.2 Employee health and wellbeing

Overall, measures of wellbeing in the workplace show a strong pattern of improvement with the transition to the four-day week, with statistically significant reductions in burnout, as well as significant increases in a feeling of job satisfaction. As illustrated in table 10, we found that work stress (described on a five-point scale from “never” to “all of the time”) decreased over the trial period. However, the magnitude of this change was small and insignificant (-0.1), suggesting that in the first six months of working a four-day week, some participants noticed a reduction in stress levels, but this was not a large shift or one experienced by all.

On the other hand, when asked about tiredness, exhaustion, frustration, and leisure time relating to burnout, participants reported a large (-0.6) and significant reduction throughout the trial. Finally, job satisfaction was measured again on a 10-point scale from 0, “completely unsatisfied”, to 10 “, completely satisfied”, increasing from a mean response of 7.0 out of 10 to 7.5. This improvement in mean score was statistically significant, demonstrating a shift to working four-days a week was associated with an increase in the satisfaction employees gain from their job roles.

Table 10: Changes in employee workplace wellbeing

| Variable | Measure | N | Mean at baseline | Mean at endpoint | Δ (abs) | Δ (%) | Sig. |
|------------------|---|----|------------------|------------------|---------|--------|------|
| Work stress | 1-5 (never to all the time) over the past four weeks | 87 | 3.1 | 3.1 | -0.1 | -3.2% | |
| Burnout | Seven-item scale, range: 1-5 (never to always) over the past four weeks | 87 | 2.7 | 2.1 | -0.6 | -22.2% | *** |
| Job satisfaction | 0-10 (not satisfied at all to completely satisfied) | 85 | 7.0 | 7.5 | 0.4 | 5.7% | * |

^+p<0.1, *p<0.05, **<0.01, ***p<0.001 using paired-sample t tests

We measured overall mental and physical health on a scale from 1-5, ranging from “very bad” to “very good” at the beginning and end point of the trial. For this particular measure, we did not observe a statistically significant change. However, participants did report a statistically significant reduction in anxiety and negative affect, as well as an improvement in positive affect. Examining these results more closely, it becomes apparent that anxiety (measured in frequency of experience ranging on a four-point scale from “never” to “daily”) reduced by -0.4 from 2.3 to 1.9 throughout the trial. Negative affect (measured on a five-point scale), experienced a similar reduction, also falling by 0.4 from 2.3 to 1.9. Positive affect (also measured on a five-point scale) improved significantly throughout the trial, increasing from 3.1 to 3.7 (a 0.6 improvement). These results then pose the question as to why physical and mental health did not significantly improve when affect shifted positively and the frequency of experiences of anxiety reduced. Perhaps the more all-encompassing nature of mental and physical health made differences harder to observe, whereas, for components of mental health, e.g. anxiety, changes were easier to quantify.

Table 11: Changes in employee health and wellbeing outcomes

| Variable | Measure | N | Mean at baseline | Mean at endpoint | Δ (abs) | Δ (%) | Sig. |
|-----------------|--|----|------------------|------------------|---------|--------|------|
| Physical health | Self-rated on a scale of 1-5 (very bad to very good) | 86 | 3.5 | 3.4 | -0.1 | -2.9% | |
| Mental health | Self-rated on a scale of 1-5 (very bad to very good) | 86 | 3.4 | 3.5 | 0.2 | 5.9% | |
| Anxiety | 1-4 (never to daily) | 86 | 2.3 | 1.9 | -0.4 | -17.4% | *** |
| Positive affect | 1-5, 5 items | 85 | 3.1 | 3.7 | 0.6 | 19.4% | *** |
| Negative affect | 1-5, 3 items | 85 | 2.3 | 1.9 | -0.4 | -17.4% | *** |

^+p<0.1, *p<0.05, **<0.01, ***p<0.001 using paired-sample t tests

One reason for these positive changes in affect and anxiety may be the improvements in exercise, fatigue and sleep that employees experienced. Comparing exercise frequency pre- and post-trial, we found a small increase from 2.7 to 2.8 times per week. We also found highly statistically significant improvements in fatigue, with the average fatigue score falling from 2.6 to 2.1 (on a scale of 1-4, where 1 is “never” and 4 is “daily”). The prevalence of insomnia and general sleep problems declined significantly, from 2.1 to 1.7. We find that the fraction of respondents who are “sleep deprived” (defined by fewer than 7 hours per night) fell significantly, from 32.94% to 9.41%. However, readers should interpret these results with caution due to possible seasonal variations in sleep.

Interviewees’ thoughts on how participation in the trial had shaped their sleep, diet, and physical and mental health varied. Whilst some could trace the direct benefits of reduced worktime into healthier eating, increased exercising, and better sleep, others found it more challenging to separate the influence of the trial from day-to-day life.

“I don’t find myself eating the same level of crap that I would have done before, because I’m not constantly tired definitely.” - Ann

“My mental health has definitely improved. It’s great to just take some time for myself, be it taking a walk, reading a book, or having lunch in town. My sleep patterns have not changed but that has never been a problem for me.” - Brian

It is important to note that this trial took place in the shadow of a global pandemic which has had long-term physical and mental health implications for the general population, as Carol explains below. This context undoubtedly shaped the participants’ experience of worktime reduction.

“I had anxiety for the first time ever in my life through Covid, and so that was tough. When we did the trial, things were opening up.....it’s such a unique time to do a four-day trial. I found that as things opened up, I was getting sick because I was seeing people. And so yeah, in general, it’s been very busy. So I would say the day off has helped, but you know it’s not as good as it could have been.”- Carol

Table 12: Changes in employee sleep and exercise patterns

| Variable | Measure | N | Mean at baseline | Mean at endpoint | Δ (abs) | Δ (%) | Sig. |
|--------------------|--|----|------------------|------------------|---------|--------|------|
| Exercise frequency | Times per week, taking the mean of five categories, 0, (1-2)1.5, (3-4)3.5, (5-6)5.5, (7+)7 | 86 | 2.7 | 2.8 | 0.1 | 3.7% | |
| Fatigue | 1-4 (never to daily) | 86 | 2.6 | 2.1 | -0.5 | -19.2% | *** |
| Sleep problems | 1-4 (never to daily) | 86 | 2.2 | 1.7 | -0.5 | -22.7% | *** |
| Sleep time | Hours, taking the mean of four categories, 0-3 (2), 4-6 (5), 7-9 (8), 10+ (10) | 85 | 7.0 | 7.7 | 0.7 | 10.0% | *** |
| Sleep deprivation | Percentage with less than seven hours of sleep daily | 85 | 32.9% | 9.4% | -23.5% | -71.4% | *** |

^+p<0.1, *p<0.05, **<0.01, ***p<0.001 using paired-sample t tests

The reduced working schedule is associated with positive changes at the interface of work and family/life. When asked how easy it is to combine paid work with care responsibilities, the average score increased significantly from 2.9 to 3.9 on a 1-5 scale, where 5 is "very easy". Similarly, work-life balance increased by 1.0, rising from 3.0 at the start of the trial to 4.0 by the end. Also notable is that both work-to-family and family-to-work conflicts declined significantly following the trial. For example, for the question of whether employees come home from work too tired to do some of the household jobs which need to be done, the average score fell by 20%.

Table 13: Changes in employee work-family/life balance

| Variable | Measure | N | Mean at baseline | Mean at endpoint | Δ (abs) | Δ (%) | Sig. |
|-------------------------|---|----|------------------|------------------|---------|--------|------|
| Work-family balance | 1-5 (very difficult to very easy) to combine paid work with care responsibilities | 56 | 2.9 | 3.9 | 1.0 | 34.5% | *** |
| Work-life balance | 1-5 (very difficult to very easy) to combine paid work with social life | 85 | 3.0 | 4.0 | 1.0 | 33.3% | *** |
| Work-to-family conflict | 0-3 (never to several times a week) too tired from work to do household jobs | 71 | 1.5 | 1.2 | -0.3 | -20.0% | ** |
| Family-to-work conflict | 0-3 (never to several times a week) difficulty concentrating on work due to family responsibilities | 82 | 1.8 | 1.2 | -0.6 | -33.3% | *** |

^+p<0.1, *p<0.05, **<0.01, ***p<0.001 using paired-sample t-tests

This positive finding in terms of balancing work/family life also emerged in the qualitative interviews. Parents consistently reported that the reduced work time schedule allowed them to spend more time with their children as well as to take time for themselves.

"I have two young children, so the weekends are taken up with them. Working four-days allows me to take some time for myself." – Brian

"If I had this 20 years ago when my son was in school, my life would have been so much simpler." – Ann

"Say this evening [Helen's day off], my partner will finish work at half-four and we'll go to collect my daughter from the creche together. That's quite precious time for two adults alone not chasing a toddler around. It's an amazing time we can spend talking about adult things." – Helen

Similarly, respondents without children reported that the trial allowed them to spend more time with other family members, such as parents, as both Fiona and Dave explain:

"Yeah, my mum, brother and sister live on the other side of the country so I have been able to head off the weekend to see them because I've got that day to travel. Before it would be Friday, so I wouldn't bother going because the traffic was too bad." - Dave

"My parents are older and recently they regularly say how good it is that I have this time to spend with them now. So for that reason it's been really great." - Fiona

In the questionnaire, we asked a set of questions to assess employees' overall life satisfaction and satisfaction with specific life domains. At the beginning of the trial, when asked how satisfied they were with their life, participants responded with an average of 6.3 out of 10. This measure had a marked and statistically significant increase to 7.3 out of 10 (a 1.1-point shift). Employees are also more satisfied with other domains of life, including household finances, relationships, and time. Most notably, employees recorded an almost two-point increase in satisfaction with time (rising from 5.6 to 7.5), from before the trial to after. The magnitude of this relationship was largest for women. Further gendered impacts will be explored at the end of this report.

Participants in the trial reported how the four-day week afforded them greater ability to switch off from work and more effectively engage with their personal and family lives. Through confining work in the week to four days, weekends became opportunities to properly reset and move out of the headspace of work.

"I think the biggest thing is that it that it gives you time to really unwind." – Andrew

"It's given me more time to spend with my family members, and I think that the even greater benefit has been that it frees up my mental space for when I'm interacting with them. The mental load of work doesn't spill into your personal life." – Helen

Table 14: Changes in employee sleep and exercise patterns employee experiences: Increased satisfaction

| Variable | Measure | N | Mean at baseline | Mean at endpoint | Δ (abs) | Δ (%) | Sig. |
|--------------------------------------|---|----|------------------|------------------|---------|-------|------|
| Life satisfaction | 0-10 (not satisfied at all to completely satisfied) | 85 | 6.3 | 7.4 | 1.1 | 17.5% | *** |
| Satisfaction with household finances | 0-10 (not satisfied at all to completely satisfied) | 85 | 6.3 | 6.9 | 0.6 | 9.5% | ** |
| Satisfaction with relationships | 0-10 (not satisfied at all to completely satisfied) | 85 | 7.2 | 7.9 | 0.6 | 8.3% | ** |
| Satisfaction with time | 0-10 (not satisfied at all to completely satisfied), with the amount of time you have to do the things you like doing | 85 | 5.6 | 7.5 | 1.9 | 33.9% | *** |

^+p<0.1, *p<0.05, **<0.01, ***p<0.001 using paired-sample t tests

5.3 Time use on participants' day off

In the midpoint survey, we asked employees to record each of the activities they engaged in, in 30 minute intervals, during their most recent day off. As shown in Figure 4, employees allocated most of their waking time to leisure (6 hrs 16 minutes), followed by housework and care work (4hrs 31 minutes) and personal maintenance (4hrs 5 minutes). Participants only spent about one hour on their main job, and consistent with the result we show above, only 0.1 hours were spent on other paid job(s). Overall, the trial appears to have provided a lot of time for employees' self-care, housework and leisure.

These changes in time use were also reflected in the employee interviews. One employee used the time to study for professional exams, and another trained for and completed two half marathons. Brian, a manager in a consulting firm, noted that he sometimes spent the day with friends and occasionally just took time for himself. As the excerpt below from Deirdre's interview details, the four-day week allowed her to get on top of her personal life and carve out some time to relax, which in turn impacted how she spent her weekends and how she interacted with her entire family.

"So before the trial, I would spend my Saturday and Sunday trying to get the house ready for the following week. If I had to get anything done with my car, that would be done at the weekend. Hair appointments would be made at the weekend, and shopping for anything needed for the house. Everything was scheduled around a Saturday.

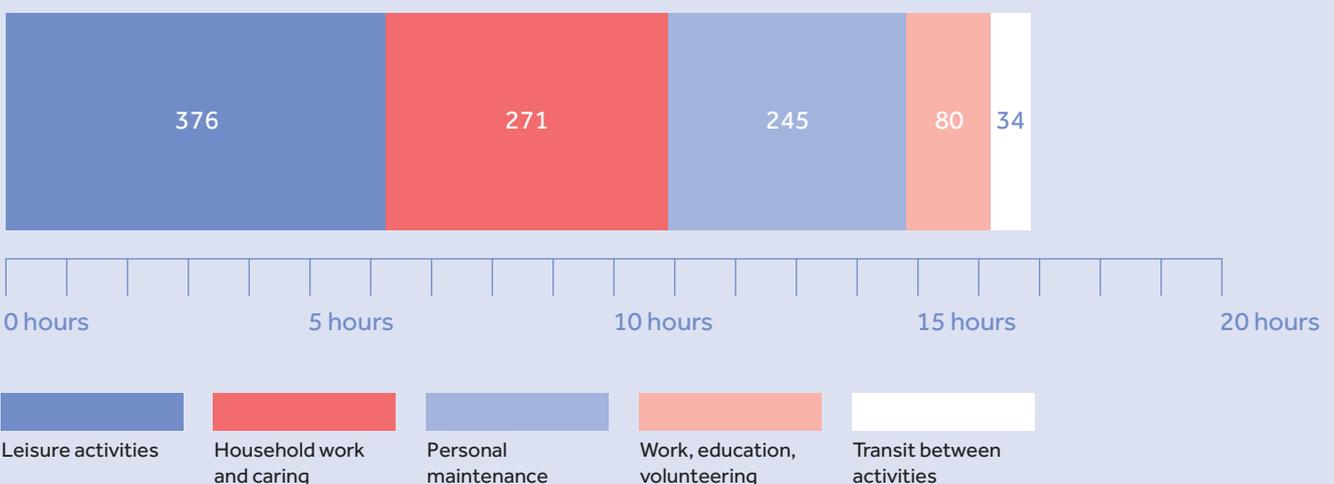
Now say, for example, on a Friday, I will get up in the morning, and I will drop my son to a creche. I'll get to walk there and back. I'll put on a wash. I can clean out the fridge and look at what we need in the press for food. Sometimes I go to the gym or go for another walk. Then I went to a food shop. I sometimes schedule to get my nails and my hair done. Or I would meet a friend, maybe go over to see my granny, and visit my grandad in the graveyard. So it's nice.

Then I collect my son early from the creche. Come home. We have a movie night on a Friday. We watch a jungle book or whatever he wants to watch. Then on Saturday, we always go and do something in the morning. I can now sit down and watch Netflix whenever he takes a nap. I never did that before....

Before the trial, I would never watch TV, I would have to catch up on jobs during naps. Then I would be tired. I'd be a stress head getting anxious and annoyed and short-tempered because I'd have all this stuff to do, and then, before I knew it was Sunday and I'd have to get ready for the next week. Before the trial that was the cycle, I was spending my whole time working and having family responsibilities as well."

Figure 3: Irish employees' time use on day off

How do people tend to spend time on their additional day off? (minutes)



5.4 COVID-19 and time-use

As discussed earlier, it is important to note that this research took place in early 2021 when Ireland was beginning to emerge from the COVID-19 pandemic. For some, the pandemic's aftermath influenced how they spent their time. For example, Carol felt that the aftermath of successive lockdowns limited her ability to use her reduced work schedule to develop new pursuits because of a backlog in social engagements.

"So I got a keyboard for my birthday last year. I was going to learn, and I wanted to learn a language or practice French, and then I wanted to volunteer but coming out of COVID and lockdowns meant that it has been so busy socially. It's been the most mental year. We've had seven weddings and loads of hen parties, so I'm just grateful that I had the other day off to get ready for all of these!"

It is important to note that lockdowns implemented by the government during COVID-19 led to increased levels social isolation in Ireland. Those in Carol's age group were particularly impacted. The Central Statistics Office found that almost three quarters of those aged between 18 and 34 reported that their mental health was negatively impacted. Therefore, the notable increase in levels of social engagement was reported by participants during the trial, which took place during the reversal of social distancing restrictions. This is reflective of the specific temporal context of the Irish trial¹⁸.

Brenda explained building supply shortages associated with the pandemic complicated an ongoing house renovation and limited her ability to make positive lifestyle changes. Though she did highlight that the extra day did give her time for some self-care.

"Well, I didn't make the time, really, because any time that I did have went on the house, I was just wrecked. So with everything that was going on I didn't put the extra time that I had into looking after myself, but I'm hoping to now....I will say without the four-day week, I would never have survived this year."

For Brian, his day off was often spent looking after their children when they were sent home from childcare due to viral symptoms. Like Brenda's experience, the extra day off allowed him to deal with these COVID-19-related complications that were critical to his and his partner's wellbeing during this challenging period.

"I occasionally take my day off when the kids are sick. This has taken the pressure off both my wife and me as I have the ability to pick up the slack when the kids have been sent home from creche or if they have any symptoms. This has been a lifesaver during COVID!"

Given the employees' reflections on the deleterious impacts of COVID-19 on their wellbeing, it is quite possible that the gains in wellbeing associated with reduced worktime were lower due to the pandemic.

5.5 Gender differences in employee outcomes

Proponents of reduced work time highlight the promise of the policy for promoting gender equality. Because of caring responsibilities, women tend to favour more flexible work arrangements, which WTR facilitates. In Ireland, 28.2% of employed women compared to just 9.6 % work part-time . This gap is larger than the EU average²⁰. Research has found that part-time work limits women's career prospects and reinforce inequalities within the home²¹. A universal worktime reduction policy has the potential offset these disadvantages because the program will be equally availed of by employees regardless of gender. The rationale is that with more free time available, men may spend greater time on housework or childcare, thereby narrowing the well-documented gender gap in unpaid domestic and care work.

Among respondents who have a partner, the move to four-day week did not change the household division of labour, measured by respondents' share of time looking after children or housework.

On the other hand there was also no significant difference in how men and women spend their day off. This is a promising finding from a gender equity perspective, as in other national contexts, women were more likely than men to report spending their additional free time on care and household work²².

²⁰ Eurostat, "Employment Patterns."

²¹ Jones, "Women's Progression in the Workplace."

²² Buhl and Acosta, "Work Less, Do Less?"

Table 15: Changes in couples' division of labor, by gender

| Variable | Measure | N | Mean at baseline | Mean at endpoint | Δ (abs) | Δ (%) | Sig. |
|---|--|----|------------------|------------------|---------|--------|------|
| Share of time looking after children: men | 1 (more time than partner), -1 (less less), 0 (same) | 20 | -0.55 | -0.4 | 0.15 | -27.3% | |
| Share of housework: women | 1 (more than fair share), -1 (less than), 0 (just about) | 26 | 0.46 | 0.65 | 0.19 | 41.7% | |
| Share of housework: men | 1 (more than fair share), -1 (less than), 0 (just about) | 49 | 0.08 | 0.04 | -0.04 | -50.0% | |

^+p<0.1, *p<0.05, **<0.01, ***p<0.001 using paired-sample t tests

Meanwhile, we find evidence that childcare costs went down since the beginning of the four-day week trial. When asked how the money they spent on childcare changed following the trial, the average response is -0.28 (-1 indicates decrease and 1 indicates increase).

Table 16: Changes in childcare costs

| Variable | Measure | Mean | Sig. [^] |
|---------------------------|--|-------|-------------------|
| Change in childcare costs | (-1) decrease, (0) no change, (1) increase | -0.28 | ** |

[^]Significance is only for the six change variables by one-sample t test, **p<0.01

Examining variables relating to work illustrated some differing trends for men and women. First, feelings of being in control of one's work schedule moved in opposite directions: increasing in women by 0.28 points versus a 0.24 point decrease in men, measured on a 1-5 scale from "very little" to "very much" (p<0.01). This difference may arise from transitioning to a four-day week for men introducing insecurity into a routine. In contrast, women may instead experience this as being able to choose a day off and better control their time. Second, only women report that they feel less likely to be laid off as their perceived job security increased from 3.69 to 3.89 on a 1-4 scale over the trial (p<0.1). Finally, men reduced commuting to work by car by 11% over the six months of the trial (p<0.05), with no evidence supporting similar for women.

Gendered differences also arose throughout the trial regarding life satisfaction, sleep, and positive affect. Women report a significantly larger improvement in life satisfaction throughout the trial: an increase of 1.56 points compared with 0.843 points for men (p<0.1). Perhaps this is due to women also experiencing a significantly (p<0.1) larger increase in sleep (over one hour per night) compared to just half an hour for men, and in positive affect improving by 0.86 on a five-point scale, relative to 0.51. Notably, however, improvements are seen across all three variables discussed here for both men and women. They are just greater in magnitude for women.

6. Environmental footprint and behaviour

The third category of expected benefit, after economic and social, is environmental, specifically climate benefit. As noted above, prior research has found associations between shorter hours of work and lower carbon emissions. Studies of the compressed workweek (four ten-hour days) have found lower energy use via less commuting and less organisational energy use. In the 4DWG trials, we were interested in measuring employee and household carbon footprints. However, carbon footprints consist of many types of energy use, both direct and indirect, and are difficult to measure. Most of the existing calculators for individuals are not oriented to short-term changes. A new generation of personal calculators relies on credit card data, which was unavailable for privacy reasons. We decided to focus on a few key areas comprising the biggest energy expenditure sources which are household electricity, heating and cooling, gas purchased for driving, and domestic and international travel. It is important to include both company and household changes, however, most companies and individuals could not give us data. For companies, many felt unable to do so because their energy bills are included in rental payments and/or they transitioned to being partly and/or fully remote before or during the trial. Similarly, among the individual employees, questions on household energy use had a much lower response rate than the other questions. We suspect the low response rate is due to the administrative burden of responding to this question. Further complications arise in calculating energy usage in rental accommodation and larger family living arrangements. In addition, there can be strong seasonality in household energy use and travel. We are still developing correction factors for those metrics and will report them later. At this point, we have a limited number of metrics to share.

One important environment-related variable for which we have a high response rate is commuting. Here we see significant decreases in the frequency and duration of commuting. Between the beginning and end of the trial, the fraction of respondents who reported commuting to work by car fell by 3.45%, from 31.03% to 27.59%. The magnitude of this change and the lack of statistical significance may be because many employees had been working remotely before the trial (73%). A second commuting variable – the amount of time spent commuting – fell from 2.4 to 2.2 hours per week.

We also asked about leisure travel. We found a significant increase in the average domestic travel over the trial from 0.2 to 0.8 trips over the last four weeks. Similarly, international travel rose slightly from 0.2 to 0.5. We expected an increase for seasonal reasons and not necessarily due to an increase in leisure time. The time use data suggests that participants in this trial spent their off days in hobbies, housework and self-care. Though increased leisure time may contribute to changes in travel patterns.

In an additional effort to gather data on energy use, we also asked respondents whether they thought their energy use decreased, was unchanged, or increased over the trial period at the end of the trial questionnaire. The majority reported no change. On the other hand, 64% of respondents also thought their leisure travel had gone up.

Table 17: Changes in energy use and leisure travel

| Variable | Measure | Mean | Sig. |
|--------------------------|--|------|------|
| Change in energy use | (-1) decrease, 0 no change, one increase | 0.37 | |
| Change in leisure travel | (-1) decrease, 0 no change, one increase | 0.62 | *** |

^Significance is only for the six change variables by one-sample t-test, **p<0.01

Finally, we measured changes in pro-environmental behaviour. We operationalise pro-environmental behaviour in three ways: household behaviour, social behaviour and volunteering. For the first category of items, which included household recycling, walking and cycling rather than driving, and buying eco-friendly products, we found a small but significant increase in self-reports of these behaviours. Similarly, we also found increases in the other two domains of environmental behaviour related to volunteering for environmental causes and social dimensions of environmental activism, including sharing environmental information and educating others. Notably, we did not observe the same increases in pro-environmental behaviour in employees outside of Ireland who also participated in this particular trial.

Table 18: Changes in pro-environmental behaviour

| Variable | Measure | N | Mean at baseline | Mean at endpoint | Δ (abs) | Δ (%) | Sig. |
|--|---|----|------------------|------------------|---------|---------|------|
| Pro-environment behavior: household | 1-5 (never to always), 4 items: recycling, buying eco friendly, walking + cycling over driving | 85 | 3.74 | 3.89 | 0.16 | 4.14% | * |
| Pro-environment behavior: social | 1-5 (never to always), 2 items, encouraging others and educating oneself about environmental protection | 85 | 3.28 | 3.60 | 0.32 | 9.88% | ** |
| Pro-environment behavior: volunteering | 1-5 (never to always), 1 item | 69 | 1.57 | 1.93 | 0.36 | 23.06% | * |
| Commute time per week | Number of hours spent per week commuting | 61 | 2.38 | 2.21 | -0.17 | -7.27% | |
| Means of commuting to work | Percentage commuting to work by car | 87 | 0.31 | 0.28 | -0.03 | -10.97% | |
| Domestic travel | Number of domestic trips taken in the past 4 weeks | 85 | 0.20 | 0.76 | 0.57 | 282.50% | *** |
| International travel | Number of round-trip international flights taken in the past 4 weeks | 85 | 0.24 | 0.47 | 0.24 | 97.92% | ** |

^+p<0.1, *p<0.05, **<0.01, ***p<0.001 using paired-sample t tests

7. Control group and limitations

It is important to note that a pre and post intervention research design has some limitations. Namely, it is difficult to rule out other factors that may have contributed to the changes we observed among the participants in the trial. One way to overcome this limitation is to introduce a comparison or control group. The presence of control groups allows researchers to confirm that study results are due to the changes in the key independent variable (in this case, the reduction in worktime) rather than other factors. At the outset of the trial, two companies that were NOT implementing a reduced work schedule agreed to share our base and endline survey with their employees so that we could statistically compare if the results we observed among the employees in the four-day week trial were different from the results for the employees that did not have a reduced work schedule (control group).

Unfortunately, only 23 employees from one organisation completed the base and endline survey. This low participation rate limits the reliability of the comparison between the trial participants and the control group. With this caveat, we observed the following differences in employee outcomes between the group that participated in the trial and the group that did not (i.e. the control group):

- We observed a decline in physical and mental health outcomes for the comparison group but not for the trial participants
- Employees' perception of work/life and family/life balance decreased for the comparison group and increased for participants in the trial
- Overtime work increased among participants in the comparison group but decreased for participants in the trial
- We observed a slight decrease in the number of employees that were sleep deprived in both the trial and control group. However, the magnitude of this change was twice as large for participants in the trial
- The amount of domestic and international travel increased at the same rate for both groups. This suggests that the increase in leisure travel observed among trial participants may be partly due to seasonality and the lifting of COVID-19 travel restrictions.

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The amount of domestic and international travel increased at the same rate for both groups. This suggests that the increase in leisure travel observed among trial participants may be partly due to seasonality and the lifting of COVID-19 travel restrictions.

While we have collected a large number of outcome variables from employees and a smaller number from companies, our data collection and analysis have been limited in other ways. The Irish context's findings reflect a small subset of Irish industries. In addition, the number of employees who participated in the trial was relatively small owing to the small size of the participating organisations. Another limitation is from the company data. Many organisations do not collect detailed performance or productivity data; as a result, we had to confine our company data gathering to a small number of metrics. In future trials, we hope to expand our efforts in terms of sample size and diversity and complexity of the research design.

8. Conclusion

Proponents of the four-day week argue that it provides multiple benefits – to the organisations that implement this innovative schedule, the employees who work it, and the climate. To assess these claims, we collaborated with 4 Day Week Global and studied companies and employees piloting a four-day workweek with no reduction in pay. As we have detailed throughout this report, the results of these trials have been overwhelmingly positive. The companies report that they are extremely pleased with their performance, productivity and their overall experience. Employees express similar sentiments. These are valuable pieces of information. However, our research design allows us to go beyond recording the sentiments of those involved to quantify how the trial changed wellbeing and employee experiences, both at work and at home. The before-and-after design is a far more accurate way of assessing impacts than retrospective data. We found that the trial had profound effects. For the companies, relevant metrics showed high levels of success. Revenue rose on average.

And on a wide range of outcomes, employees were far better off at the end of the trial than they were at the beginning. They were less stressed and less burned out. Their satisfaction with their lives improved, generally and across various domains. Their self-reports of work performance went up substantially, but not because they were sped up or worked harder. The companies' efforts to re-organise work successfully elicited productivity without speed-up.

These findings should serve as a strong signal to employers across many sectors that it is time to explore the possibility of retiring the nearly hundred-year-old convention of the five-day, 40-hour week and begin to embrace a four-day, 32-hour week.

9. Appendix A

Qualitative interview participants

| Name | Age | Sex | Relationship status | Education | Parent | Child <18 | Occupation |
|---------|-------|-----|---------------------|---------------|--------|-----------|---|
| Ann | 45-49 | F | Cohabiting partner | Diploma | yes | 0 | Business and administration professionals |
| Brenda | 30-34 | F | Cohabiting partner | Post-graduate | yes | 1 | Administrative and commercial managers |
| Carol | 30-34 | F | Cohabiting partner | Post-graduate | No | - | Business and administration professionals |
| Andrew | 45-54 | M | Married | Post-graduate | yes | 2 | Science and engineering professionals |
| Deirdre | 55-64 | F | Married | Post-graduate | yes | 0 | Chief executives, senior officials and legislators |
| Brian | 35-44 | M | Married | Post-graduate | yes | 2 | Business and administration professionals |
| Elaine | 30-34 | F | Married | Post-graduate | No | - | Business and administration professionals |
| Fiona | 45-54 | F | Single | Post-graduate | No | - | Chief executives, senior officials and legislators |
| Chris | 35-44 | M | Cohabiting partner | Post-graduate | No | - | Science and engineering professionals |
| Dave | 30-34 | M | Cohabiting partner | Post-graduate | No | - | Information and communications technology professionals |
| Helen | 35-44 | F | Married | Post-graduate | yes | 1 | Business and administration professionals |

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Four Day Week Ireland

Four Day Week Ireland is a campaign advocating for a gradual, steady, managed transition to a shorter working week for all workers, in the private and public sectors.

Our medium-term objective is to move towards the four-day week being the standard work arrangement across the economy, with no loss of pay. As with the five-day week today, it will not be the only work arrangement.

For some sectors, employments and workers, different variances of reduced working hours and a shorter working week will need to co-exist alongside the benchmark of the four-day week.

We have seen big changes in the ways we work and live. Technology has removed barriers to new ways of working, and employers have seen the benefit of allowing for flexibility among their workforces.

These changes are leading to more efficient working practices, now and in the future. We must make sure that these changes work for workers, their families, and communities.

Website: www.fourdayweek.ie • Email: contact@fourdayweek.ie



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