4tagewoche.org

The 4-Day-Week in Germany

First Results of Germany's Trial on Work Time Reduction

Universität Münster

4 DAY WEEK GLOBAL

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OUTLINE

EXECUTIVE SUMMARY

In early 2024, 45 organizations across diverse industries in Germany aimed to trial a four-day-week (4DW) schedule for a period of six months. This report presents data from organizations that have either completed the trial or are about to finish by the end of the year.

INDUSTRY REPRESENTATION & ORGANIZATION SIZE

The participating organizations spanned various industries, including professional services, manufacturing, construction, health care and social services, IT, and utilities. Organizations ranged in size from micro-organizations with fewer than 9 employees (13%) to large organizations with over 250 employees (14%). The majority were small (10-49 employees) or medium-sized (50-249 employees) organizations (73%).

START OF THE TRIAL

While 51% of the organizations adhered to the official start date of February 1st, 2024, others began their 4DW trial between January and June. This approach allowed organizations to tailor the implementation to their specific operational needs, offering greater flexibility.

IMPLEMENTATION FLEXIBILITY

Organizations had the autonomy to determine how they implemented the 4DW. While 60% of participating organizations applied the 4DW to their entire workforce, 40% limited it to selected employees or teams. Larger organizations predominantly implemented the 4DW only for specific departments. Organizations also implemented a variety of different work reduction models varying by the degree of time reduction and flexibility of days off. 34% of organizations reduced work time by 20%, while 20% opted for a reduction of 11-19%. 85% of the organizations designated one full day off each week, while 15% chose alternative models.

EXPECTATIONS & MOTIVATION

The primary reasons for organizations to trial the 4DW included enhancing employer attractiveness (89%), improving employee health (77%), productivity growth (57%), and future orientation (37%) .

PREPARATION & SUPPORT

Organizations had the opportunity to attend up to 15 digital workshops on topics about how to introduce the 4DW, such as defining framework conditions, optimizing work processes, and legal considerations. They also had access to digital and in-person networking opportunities to share experiences and insights.

ORGANIZATIONS DROPPING OUT

Out of the original 45 organizations, two large organizations discontinued their participation due to economic difficulties or lack of internal support for the 4DW.

DATA COLLECTION

The research involved the collection of data in three waves and multiple data sources. Subjective perceptions of employees and managers were captured via surveys and interviews. Further, the research team utilized smartwatches and hair samples to collect objective physiological data on the individual level capturing detailed information about stress, physical activities, and sleep. Moreover, organizational metrics serve as objective data on the organization level. Control groups within organizations that did not adopt the 4DW for all employees provided a baseline comparison in addition to the comparisons over time.

IMPLEMENTATION MEASURES

To compensate for the reduced working hours, employees made several adjustments, such as reducing distractions (65%), optimizing processes (63%), and modifying meeting structures (52%). Others stated to utilize focus time (32%) or introduced new digital tools (25%) to further enhance work efficiency.

EXECUTIVE SUMMARY CONT.

WORK TIME & OVERTIME

The trial resulted in a significant reduction in both weekly workdays (-0.45 days) and weekly work hours (-3.95 hours). At the same time monthly overtime decreased (-1.58 hours).

PERFORMANCE & PRODUCTIVITY

Financial performance metrics such as revenue and profit do not show a significant difference compared to the previous year. However, the fact that these metrics remain stable, while work hours were significantly reduced, suggest that at least some productivity gains have been realized. Top management perceptions and self-reported employee data support this.

SATISFACTION & EMPLOYER ATTRACTIVENESS

Overall employee satisfaction increased and organizations reported improvements in recruitment and retention rates. However, we find only little evidence for increased job satisfaction and decreased turnover intention reported by employees. Likewise, we do not find solid evidence for improved turnover rates as measured by objective metrics.

PHYSICAL ACTIVITY & SLEEP

The introduction of the 4DW significantly increased physical activity levels, as measured by step counts, and intensity minutes. In comparison to the control group, 4DW participants took more steps (+1.848 steps) and were more physically active (+24.45 min) per week. Additionally, participants in the 4DW slept longer per week than those in the control group (+38 minutes).

EMPLOYEE HEALTH

Participants reported significant improvements in mental and physical health. Smartwatch data confirmed these findings, showing that participants in the 4DW experienced fewer stress minutes per week (-89 minutes) compared to those in the control group.

ABSENTEEISM

We do not find strong evidence for an improvement in employee absenteeism. Although organizational-level data showed a slight decrease in monthly sick days, the difference compared to 2023 is not statistically significant. Likewise, while employees self-reported a decrease in absence from work the same applied for the control group, suggesting seasonal differences as the underlying reason.

TIME USE

We find that participants had more time for their family, their friends, physical activity, and self-care. For instance, before the trial, 64% of employees expressed a desire to spend more time with family. During the trial this figure dropped to only 50%.

ENVIRONMENTAL IMPACT

International studies have found that the implementation of a 4DW can significantly reduce employees' and companies' environmental footprints, primarily through decreased commuting and lower electricity consumption in the workplace. However, in our sample, no such reductions were observed. Commuting times remained unchanged, and there was no evidence to suggest that activities undertaken on the additional day off were particularly environmentally friendly.

POST-TRIAL CONTINUATION

73% of organizations stated that they will continue the 4DW beyond the trial, either by extending the trial phase or fully implementing it. Meanwhile, 20% opted to discontinue the 4DW, and 7% remained undecided. From the employee perspective 83% wish to continue. These findings demonstrate an overall positive reception of the 4DW.

1. STUDY CONTEXT

The concept of a four-day-week (4DW) has been gaining momentum internationally, as governments, organizations, and employees seek to improve working conditions and work-life balance while maintaining or even enhancing productivity. This trend has been driven by a combination of social, economic, and technological factors that have reshaped how work is organized and understood in the 21st century. Countries like Iceland, New Zealand, and the United Kingdom (UK) have led the charge in trialing shorter workweeks, with numerous case studies suggesting significant benefits in terms of employee well-being, job satisfaction, and productivity. These initial results have prompted a growing interest in introducing new work models paving the way for the first large-scale German trial of the 4DW.

Despite growing interest, the conversation around the 4DW in Germany is notably polarized. Debates are centering around the economic implications of reducing work hours, especially at a time when inflation and labor shortages are already putting pressure on organizations. While advocates emphasize the potential benefits—such as increased employee engagement, higher productivity, and better health outcomes—critics express concerns over the feasibility of a 4DW in certain sectors and its general sustainability. The latter further argue that industries such as child or elderly care, transportation, and manufacturing which rely on fixed hours, shift work, or continuous service, may struggle to implement a shortened week without sacrificing service quality or increasing operational costs.

Moreover, when we look at Germany's economy, it is currently facing stagnation. Declining order backlogs and weak demand are putting pressure on the export-oriented industrial sector, while consumer-related service sectors, such as retail, transportation, and hospitality, continue to experience unfavorable conditions. Despite falling inflation and increased purchasing power due to higher real wages, consumer confidence has worsened, suggesting a delayed recovery until the end of the year. Labor market indicators remain weak, with no significant recovery expected in the second half of 2024 (Bundesministerium für Wirtschaft und Klimaschutz, 2024). Associated with the challenging economic situation, Germany is experiencing a notable shortage of skilled workers, with approximately 701,490 job vacancies reported in 2023 (Statista, 2024a). This shortage of skilled labor has reached critical levels in sectors such as construction, IT, childcare, and healthcare.

In addition mental health-related absenteeism has reached worrying levels in recent years. In 2023, the average German worker took more than 15 sick days (Statistisches Bundesamt, 2024), with 16.1% of these absences attributed to mental health issues (Statista, 2024b). The resulting economic loss from employee absences due to illness amounted to €207.1 billion in gross value added, with €30.2 billion of this attributed specifically to mental health-related issues (Statista, 2024c).

Consequently, organizations are increasingly recognizing the need to improve working conditions to retain and attract employees while maintaining productivity.

Therefore, 45 organizations opted to experiment with a 4DW to test the implementation of an innovative work model with reduced working hours and assess whether these changes might benefit both their organizations and employees. By shifting the focus from time spent at work to outcomes achieved, this model—drawing on research approaches from previous trials in other countries—has the potential to influence work performance and improve employee well-being.

Hence, the primary objective of this study is to investigate the extent to which the introduction of the 4DW impacts employee work behavior. To achieve this, a comprehensive scientific approach was taken, integrating a variety of perspectives. This includes subjective survey-based questionnaires and interviews as well as objective physiological smartwatch tracking data and hair samples to analyze stress levels. Accordingly, this report presents an overview of the initial findings from the organizations and employees involved in the trial, with particular attention to the employees' perspectives on work time reduction.

2. ORGANIZATION OF THE TRIAL & RESEARCH DESIGN

2.1 THE COORDINATING & RESEARCH TEAM

The first 4DW trial in Germany was a collaborative effort initiated by 4 Day Week Global and the German consultancy Intraprenör. The scientific part of the study was led by the chair for Transformation of Work at the University of Münster supported by a research team of the Boston College. The various members of the different teams are introduced below.

4 Day Week Global

4 Day Week Global is a nonprofit organization co-founded by Andrew Barnes and Charlotte Lockhart, dedicated to transforming the future of work. Their mission is to support organizations in implementing the 4DW and to lead large-scale research projects around the world. By doing so, they aim to shift the conversation about the future of work from focusing on working hours to prioritizing productivity outcomes and employee well-being. The organization has successfully conducted several 4DW trials across six continents, including countries such as the UK, U.S., Ireland, Australia/New Zealand, South Africa, Portugal, and Brazil, with additional trials currently in progress. In the German trial, key contributors from 4 Day Week Global included Dr. Dale Whelehan (CEO), Karen Lowe (Director of Marketing and Communications), and Alex Soojung-Kim Pang (Director of Research and Innovation), all of whom played pivotal roles in initiating and guiding the trial.

Intraprenör

Intraprenör is a Berlin-based consultancy, advising organizations in becoming attractive employers by specializing in people and culture strategies. As pioneers for the future of work (called “New Work” in Germany), Intraprenör has already been recognized for its innovative approaches with the XING New Work Award and the HR Excellence Award. As the German pilot project initiator and practice partner, Intraprenör led the campaigning, company acquisition, and consulting parts of the 4DW trial. The team was led by Carsten Meier, Co-Founder and Partner at Intraprenör, and Jan Bühren, Head of Research & Senior Consultant at Intraprenör.

University of Münster

The chair for Transformation of Work at the University of Münster led the research part of the 4DW trial in Germany. The chair focuses on the impact of technological and societal changes on the future of work, employees, and organizations. The research team was led by Professor Dr. Julia Backmann and Assistant Professor Dr. Felix Hoch, who, along with Johannes Hüby, Marika Platz, and Assistant Professor Dr. Matthias Sinnemann, comprised the core research team for the German trial. The team was supported by several research assistants and masters' students who helped with the data collection. As a result of this research, two PhD theses and several master’s theses are currently in progress. The research team did not receive external funding or financial compensation to conduct this research.

Boston College

The Münster team also closely collaborated with the research team at Boston College, which included Professor Dr. Juliet Schor, Associate Professor Dr. Wen Fan, Guolin Gu, and Ami Campbell. The Boston College team, which conducted several 4DW pilot studies (including the largest study to date in the UK), provided the survey instrument used in the German trial. Drawing on their prior experience, they also provided academic expertise to support the German research team throughout the trial phase.

2.2 RECRUITMENT OF INTERESTED ORGANIZATIONS

In cooperation with 4 Day Week Global, Intraprenör initiated and organized the first pilot study of the 4DW in Germany. In September 2023, Intraprenör launched a call for organizations interested in testing the 4DW over a six-month pilot period. This call was accompanied by a major launch event in Berlin, inviting interested organizations to learn about the process and the scientific aspects of the study. Following this event, four more specific digital sessions targeted different types of organizations. Companies were invited to apply until the end of November 2023. During this phase, 278 companies expressed interest, and participants were subsequently selected through information webinars and individual consultations.

As the study aimed to test reduced working hours without a corresponding proportional salary reduction, the willingness of organizations to comply with this requirement was a key selection criterion. Therefore, organizations that indicated an intention to reduce pay proportionally to the reduction in working hours were excluded. Additionally, some organizations expressed interest in testing a compressed 4DW without reducing working hours (e.g., distributing the standard 40-hour workweek across four days). These organizations were also not included in the study.

To achieve a diverse sample reflecting the structure of the German economy, the representation of different industries, as well as a variety of company sizes, was another key consideration. For inclusion in the trial, the active involvement and support of key decision-makers, such as top management, works councils, and/or supervisory boards, was the final selection criterion. As a result, the sample of the German trial only includes organizations that were interested in experimenting with alternative work-time models. Based on these key selection criteria, Intraprenör selected 51 organizations to participate in the trial.

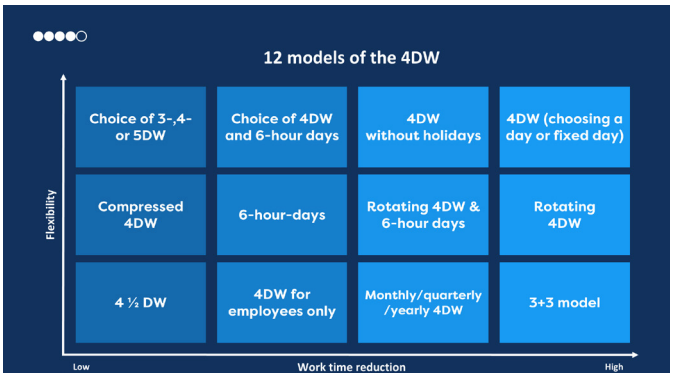
2.3 PREPARATION & SUPPORT FOR PARTICIPATING ORGANIZATIONS

To facilitate implementation, participating organizations were provided with access to a digital knowledge platform, an online learning program, and the opportunity to attend 15 digital workshops offered by either 4 Day Week Global and/or Intraprenör during both the planning and implementation phases. These workshops covered topics including defining framework conditions, setting up a project team and project plan, defining goals, metrics, and boundaries, different models of the 4DW, legal questions related to the 4DW, leveraging digitalization and AI in the 4DW, optimizing work processes, best practices, and internal and external communication. Further, Intraprenör offered monthly consultation hours, personalized advice, and networking events, such as an event held in Münster mid-way through the pilot in June 2024.

A key element of the planning phase was supporting organizations in identifying the most suitable 4DW model. Although the framework proposed by 4 Day Week Global for trials typically follows the 100-80-100™ principle developed by the cofounders of 4 Day Week Global, organizations had the flexibility to tailor the work-time reduction according to their specific industry, organizational context, and needs. The 100-80-100™ principle refers to maintaining 100% pay for 80% of the working time while ensuring 100% productivity. While this principle is often used synonymously with the 4DW, previous studies have shown that 4DW models can vary. To help participating organizations design a model suited to their circumstances, Intraprenör developed a framework that was introduced during the planning phase.

The framework structures various 4DW models along two axes: the degree of work-time reduction (x-axis) and the level of flexibility (y-axis). This approach highlights the diversity of possible models, allowing organizations to explore different options. The models were informed by Intraprenör's consulting experience and input from Martin Gaedt, a German author and speaker who wrote the first German-language book on the 4DW. Gaedt's book profiles 151 German-speaking companies that have already implemented a 4DW, offering practical insights into different approaches.

The framework introduced 12 different models, each illustrated with a real-life example. These examples provided organizations with practical information and inspiration, making it easier to initiate internal discussions about the most appropriate approach.



The goal was to offer flexible, accessible options that would encourage organizations to experiment with the model in a way that aligned with their specific needs and contexts.

2.4 DATA COLLECTION

The data collection for this report was conducted in three waves: pre-pilot (wave 1), mid-pilot (wave 2), and end-pilot (wave 3). A summary of the planned research timeline for organizations starting the trial on February 1st is presented below:

During the pre-pilot phase, the status quo of the participating organizations and employees was assessed before the introduction of the 4DW. The mid-pilot phase occurred approximately three months into the trial, capturing the initial experiences and feedback following the implementation of the 4DW. The final data collection took place about six months after the 4DW was introduced, during the end-pilot phase. At this stage, the overall per-

ception of the trial was evaluated, and organizations were asked whether they planned to adopt the 4DW permanently, extend the trial, or discontinue the work reduction model.

In addition, a fourth phase of data collection is planned for 2025, approximately one year after the organizations began implementing the work time reduction. However, these results are not included in this report. Participation in the scientific part of the pilot project was voluntary, and it was not expected that every organization would participate in all four phases of the project.

The data collection methods covered a wide range of areas. When designing the study, particular emphasis was placed on combining both subjective research methods, such as questionnaire-based surveys and interviews, with objective measurements, such as smartwatch tracking data and hair samples. The study therefore utilized a mixed-methods approach, incorporating qualitative data (i.e., interviews) and quantitative data (i.e., surveys, smartwatch tracking, organizational metrics). The specific data collection methods are detailed in the following sections.

The research team at Boston College provided the survey instruments to the research team at the University of Münster. The survey was first translated into German and then back-translated into English to ensure that the meaning remained consistent after translation. The German research team further adapted the survey to the local context and added further questions. The survey was then piloted by all members of the research team and shared with individuals outside the team to ensure that the questions were clearly understood and easy to follow.

2.4.1 SURVEYS

Organization-Specific Surveys

At the start of the study, an onboarding survey was conducted with the participating organizations. Each organization was asked to name a key respondent, typically a member of the top management team, to complete the survey. The primary goal of this initial survey was to collect general information about the organizations, including details such as industry, number of employees, current work schedules, and specific plans for the 4DW trial (e.g., anticipated start date, number of employees involved, and the chosen work-time reduction model). In addition to these details, we also requested key performance metrics to enable comparisons between the pre-trial period in 2023 and the trial period in 2024. These included indicators such as revenue, profit, hours worked, and the number of sick days. The organizations were also given the opportunity to identify additional performance indicators of particular relevance to their organizations.

At the end of the six-month trial phase, key respondents completed an end-term survey. This survey gathered insights on whether the organizations decided to continue with the 4DW, their planned next steps, perceived impacts of the 4DW on their operations, and any notable events (such as mergers & acquisitions, or layoffs, or regulatory shocks) encountered during implementation. Additionally, a follow-up survey will be conducted one year after the onboarding survey to evaluate the post-trial effects on the participating organizations. As of now, this final survey is still pending and is scheduled for distribution in 2025.

Employee-Specific Surveys

The employee-level surveys were conducted in three waves, and targeted the employees of the participating organizations. Most organizations provided the email addresses of employees switching to a 4DW, as well as employees in the control group who remained on a five-day schedule but participated in the study. However, due to confidentiality concerns, four organizations opted not to share employee contact details. In these cases, an anonymous link was provided for distribution among employees. To match responses across the three waves for participants in anonymous groups, an individual identifier was used, which employees could enter in the first survey and repeated in each subsequent survey. The surveys covered a range of topics, including demographic information, trial planning (wave 1), trial implementation (waves 2 and 3), work and employment conditions, health, well-being, life satisfaction, time use, care work, and environmental behavior. The first survey, conducted at the start of the 4DW, took approximately 25 minutes to complete. A second survey, distributed around three months into the trial, assessed whether employees were able to implement the 4DW schedule as planned, as well as their work performance, health, well-being, life satisfaction, time use, and care responsibilities. This survey took about 10 minutes. The end-term survey, distributed at the end of the six-month trial, asked participants to evaluate the 4DW's impact, and once again included questions about work and employment, health, well-being, life satisfaction, time use, care work, and environmental behavior. This survey took approximately 20-25 minutes to complete. At this stage, the study includes data from three measurement points.

Baseline Employee Survey (wave 1)	Mid-term Employee Survey (wave 2)	End-term Employee Survey (wave 3)
Respondents: 643	Respondents: 420	Respondents: 332
4DW: 535	4DW: 355	4DW: 293
Control: 108	Control: 65	Control: 39

TIMELINE OF PLANNED RESEARCH APPROACH

DATA COLLECTION PROCESS

In wave 1, 643 employees responded (108 in the control group). By wave 2, the number of respondents dropped to 420 (65 in the control group). In wave 3, there were 332 respondents (39 in the control group). This data highlights a gradual decrease in participation across all three waves as usual in panel surveys. It is important to note, that some organizations delayed the start of their trial until as late as June (see section 3.1.1), meaning not all employees have completed the mid-term and end-term survey yet. Additionally, a follow-up survey is planned for one year after the start of the trial to assess mid-term effects at the individual level.

2.4.2 INTERVIEWS

The qualitative study involved interviews with selected individuals across various roles, including top management, project initiators, leaders (i.e., employees with leadership responsibility, such as team leaders), employees, and, where applicable, representatives from the HR department or works councils. Unlike the quantitative research, which was based on questionnaire surveys targeting all participants, the qualitative study focused on a subgroup of participants from different organizations. The objective of these interviews was to gain a deeper understanding of the effects of transitioning to a 4DW on the organization, and to capture attitudes, processes, and changes in detail, placing them in the specific organizational context. These interviews allowed for valuable insights into organization-specific dynamics as well as individual and team behavior.

A few months prior to the trial, the lead researcher also engaged in discussions with the research team that conducted the qualitative study during the UK 4DW trial, including Professor Brendan Burchell (Cambridge University), Dr. David Frayne (University of Salford), and Dr. Daiga Kamerade (University of Salford). They shared their experiences and insights on conducting qualitative research within the context of transitioning to a 4DW, which helped the German research team better understand the specific challenge. Their input provided valuable guidance on capturing nuances during implementation that might not be fully reflected in survey data, offering a deeper perspective on issues that can arise throughout the transition process.

The German research team developed interview guidelines and conducted interviews both digitally and on-site. The research team visited more than 40 different organizational sites at the beginning and end of the trial phase. All interviews were recorded for subsequent analysis. The recordings were automatically transcribed using Whisper, an AI-based transcription tool. After auto-transcription, the texts were compared to the original audio, and the transcripts were anonymized to exclude personal names or names of organizations. These anonymized transcripts were then used in the data analysis. All participants were fully informed about the process and provided written or verbal consent (with verbal consent being recorded) for both the interview recording and the data collection process. To ensure the participants' anonymity, no detailed case descriptions or specific information about respondents are included in this report when quoting the interviews. Before including the quotes into this report, they were translated into English. Further, we did not change the wording or content of these quotes, but occasionally corrected grammatical mistakes to enhance readability.

The interview schedule covered various topics. In wave 1 we covered participants' backgrounds, expectations regarding the 4DW, plans for the implementation process, and managerial support for the implementation (managers and initiators only). In all three waves, we asked about organizational culture, interactions between supervisors and employees, interactions among employees, individual and team dynamics, as well as communication. In wave 2 and 3, we explored implementation challenges, perceived changes in working measures and processes, and the perceived impact on employees' personal and professional lives, as well as on the organization as a whole.

The three-stage interview process not only provided an opportunity to understand reactions to the new working time model but also offered insights into how the implementation unfolded. This allowed for a deeper understanding of key mechanisms over time and the effects on the organization and its employees.

The research team already conducted a total of over 600 interviews across the three waves of the study. Specifically, 299 interviews were conducted during wave 1. The interviews for waves 2 and 3 are still ongoing, with over 300 interviews already completed. Notably, around one quarter of the interviewees did not switch to a 4DW, because they were either from the control group or top management. Additionally, follow-up interviews are planned for one year after the start of the trial to gain further mid-term insights.

2.4.3 SMARTWATCH TRACKING

A common critique of previous studies on the 4DW in other countries was the reliance on self-reported health/stress data, which focused on capturing individuals' perceptions. To address this limitation, the current study incorporated objectively measurable physiological parameters to supplement subjective sources like questionnaire data and interviews. Specifically, physiological data and vital parameters were continuously recorded using Garmin® smartwatches (model: Vivosmart 5) provided to a subset of participants.

The primary focus of the analysis was on key metrics, such as heart rate (variability; HRV), a recognized indicator of stress, as well as the number of steps and intensity minutes to measure physical activity. Additionally, data on sleep quantity and quality were collected, allowing the research team to assess the participants' well-being in more detail.

To enhance the contextualization of this physiological data, participants were asked to reflect on their experiences in short monthly surveys. These surveys included questions about whether the recorded stress levels were work-related or due to personal life stressors. Moreover, the inclusion of wearables in the study not only increases the reliability of the findings but also opens up new opportunities for understanding how changes in work structure influence both physical and psychological health in real time. These objective physiological measurements provided a comprehensive, real-time view of how the 4DW impacted participants' physical and mental health.

The data were transmitted to the research team via the Fitrockr application, which ensured pseudonymization for data protection. To recognize the valuable contributions of participants in this part of the research, each individual will receive a personalized report detailing their tracked physiological data over the course of the study. This report will offer insights into trends related to their stress levels, physical activity, and sleep patterns, helping participants better understand their health and well-being during the 4DW trial. As a further form of appreciation, participants were allowed to keep the smartwatch provided for the study, enabling them to continue monitoring their health beyond the scope of the research.

The final sample consists of 140 participants who continuously wore smartwatches and shared data, including 115 participants from the treatment group and 25 from the control group. The smartwatches collected thousands of data points, representing over 13,000 person-days of data.

2.4.4 HAIR SAMPLES

As part of the study's objective to collect further information about health data, cortisol levels were measured as an indicator of the participants' stress levels (Staufenbiel et al, 2013). Cortisol is a hormone released in response to physical or psychological stress. While short-term increases in cortisol are a natural bodily adaptation to acute stress, chronically elevated cortisol levels can lead to health issues as a result of prolonged stress exposure. Therefore, measuring cortisol is particularly effective for evaluating chronic stress in long-term studies (Russell et al, 2012).

In this study, cortisol levels were measured through hair analysis, a well-established and reliable method for assessing long-term cortisol levels. Unlike saliva or blood samples, which are influenced by short-term fluctuations, hair analysis provides a stable indication of chronic stress (O'Brien et al., 2013). Additionally, it is characterized by simple, non-invasive sample collection. Hair samples were collected at two points: once in wave 1 to establish a baseline, and once in wave 3 to evaluate cortisol levels after the implementation of the 4DW. Each hair sample consisted of a strand of 3 cm, taken directly from the scalp (see e.g., Sauvé et al., 2007). Since human hair grows at an average rate of about 1 cm per month, a 3 cm sample reflects cortisol levels over the past three months. Hence, we can compare the stress levels in the three months prior to implementation with the stress levels in three months during the trial.

We collected 256 hair samples in wave 1. Of these, 177 were from participants in the treatment group and 79 from the control group. Data collection for wave 3 is still ongoing.

The hair samples were analyzed anonymously at a certified laboratory at University Hospital Münster (UKM) ensuring compliance with data protection regulations. To protect the privacy of participants, only cortisol levels were measured, without testing for any other substances. The determination of cortisol levels from hair samples not only requires elaborate sample preparation, but also complex laboratory analysis, which requires both high technical precision and careful evaluation of the measurement results.

Therefore, the results of the hair samples taken at the trial period are not yet available due to the time-intensive nature of the process.

2.4.5 CONTROL GROUPS

Control groups are crucial in research for accurately evaluating the effects of an intervention. These groups consist of individuals or organizations that do not participate in the intervention. In this pilot study, control groups within the participating organizations were formed in one of two ways: either by selecting entire departments, locations, or teams that did not take part in the trial, or by including individual employees within participating organizations who did not personally transition to the 4DW. Control groups are especially valuable as they allow direct comparisons between participants who adopted the 4DW and those who continued with the standard schedule within the same organization. This helps to differentiate between changes caused by the 4DW and those caused by other factors (e.g. economic conditions or seasonal effects).

To systematically capture the differences between the intervention and the control group, data collection—such as employee surveys, smartwatch tracking data, hair samples, and interviews—was conducted for both groups.

2.4.6 ETHICS & DATA SECURITY

All researchers at the University of Münster work according to ethics protocols administered by the university. The purpose of these ethics protocols is to protect the well-being of all participants. In addition, we adhere to GDPR-compliant protocols for data security and confidentiality. Both the organizations and the individuals providing data can rest assured that all data is handled with the utmost care and confidentiality. As the data is collected exclusively by us as an external research team, anonymity and confidentiality are maintained for employees. All analyses are based on anonymized data and no organizations are named in the media and publications unless they specifically wished to be named publicly.

2.5 GERMAN STUDY IN INTERNATIONAL COMPARISON: KEY FEATURES

Studies on the implementation of the 4DW across various countries consistently demonstrate positive outcomes in terms of job satisfaction, productivity, and work-life balance. A total of 210 organizations started the 4DW pilot studies, involving more than 6,300 employees transitioning to reduced work schedules. Across these studies, employees reported significant improvements in mental and physical health, reduced stress levels, and increased life satisfaction. At the same time, participating organizations observed stable or even enhanced productivity, indicating that reducing working hours did not negatively affect performance.

A key finding across these trials is that the vast majority of organizations either continued with the 4DW after the pilot phase or are planning to implement it long-term. This suggests that the 4DW not only yields short-term benefits for employee well-being but also contributes to long-term organizational stability and performance. Notably, these positive effects were observed across various industries, organizational sizes, and national contexts, highlighting the model's broad applicability and effectiveness.

Characteristics of the German Study

The 4DW trial in Germany demonstrates diversity of its 4DW models and the varying degrees of work-time reduction. While the 100-80-100™ principle was introduced and explained to the participating organizations, it was acknowledged that different industries and organizational contexts require tailored approaches to suit their unique needs. International studies have also shown that not all organizations can reduce working time by 20% without increasing hours on the remaining four days. As a result, the German pilot relied on a range of 4DW work-time reduction models, which were defined before the study but may have been adapted throughout the process. Detailed records were kept regarding which specific days were impacted by the reduction, whether it involved a fixed day off (such as Friday or Monday) or a more flexible approach.

An additional feature of the German study was the active involvement of co-determination bodies, such as staff councils, in some organizations, to better understand the organizational processes during implementation. Beyond the extensive quantitative survey data gathered from key respondents and employees participating in the trial, the German study also employed an in-depth qualitative approach. Based on the number of interviews and site visits conducted, this is the largest qualitative study of the 4DW to date to our knowledge. This in-depth approach provides critical insights into employee attitudes, team dynamics, individual experiences, and internal organizational processes during the transition.

Furthermore, the German study included control groups within organizations, comparing employees who adopted the 4DW with those who did not, all while working in the same context. This allowed for a direct comparison between the treatment and control groups. Objective data was also collected through various means, including hair samples to measure cortisol levels and smartwatches to track movement, activity levels, stress, and sleep patterns. The combination of subjective and objective data provides a unique opportunity to analyze the impact of various work-time models on employee health and well-being in a comprehensive manner.

OVERVIEW OF COUNTRY STUDIES[1]

Study Design in a Country Comparison	Main Findings
IRELAND (2022) **Participating organizations:** 33 (Ireland (11), US (6), UK (2), Australia (1), New Zealand (1) Fully remote without specified headquarters (12)) **Trialing employees:** 903 **Date of pilot:** February - July 2022 **Data collection:** Questionnaire-based organization- and employee surveys **Data sample:** 27 organizations provided survey data, 495 employees completed all three questionnaires	The study in Ireland and the USA shows that the implementation of the 4-day week led to a significant increase in employee satisfaction and an improvement in general well-being. The majority of participants wanted to keep the new arrangement, which indicates broad acceptance of the model. The positive effects included a reduction in fatigue and an improvement in health conditions, which emphasizes the relevance and potential benefits of such a model for companies and employees.
UK (2022) **Participating organizations:** 61 in the UK Trialing employees: 2,900 **Date of pilot:** June - December 2022 **Data collection:** Questionnaire-based organization and employee surveys, interviews **Data sample:** 51 organizations provided survey data, 1,967 employees completed all three questionnaires and 58 interviews were conducted	The results of the 4-day week in the UK show that a significant reduction in working hours combined with full pay led to a variety of positive effects. Companies reported improved overall performance, while employees noted increased satisfaction and an improvement in their physical and mental health. In addition, the new working time regulations and the associated flexibility contributed to an increase in the well-being and work-life balance of employees, which resulted in a significant reduction in absenteeism.
AUSTRALASIA (2022) **Participating organizations:** 26 (Australia (10), New Zealand (9), Europe (4), North America (3)) **Trialing employees:** 758 **Date of pilot:** August 2022 - January 2023 **Data collection:** Questionnaire-based organization- and employee surveys **Data sample:** 22 organizations provided survey data, 547 employees completed all three questionnaires	The results of the Australasian study illustrate the far-reaching positive effects of a 4-day working week. 88% of the participants received a full additional day off per week. In particular, a significant reduction in burnout and stress among employees was observed, while productivity increased at the same time. Overall employee satisfaction reached high levels and notable environmental benefits occurred through reduced commute times and increased participation in more environmentally friendly activities. These results show the potential of such a model to improve working conditions as well as the environmental footprint.

1 Information is taken from 4DW Global's country reports and can be found on their website at https://www.4dayweek.com/research

OVERVIEW OF COUNTRY STUDIES CONT.

Study Design in a Country Comparison	Main Findings
SOUTH AFRICA (2024) **Participating organizations:** 28 (South Africa (27), Botswana (1)) **Trialing employees:** 470 **Date of pilot:** March - August 2023 **Data collection:** Questionnaire-based organization- and employee surveys, interviews **Data sample:** 22 organizations provided survey data, 287 employees completed both questionnaires	The results of the 4DW trial in South Africa showed a significant positive impact on both revenue and productivity. 13 out of 21 organizations reported a 10.5% increase in revenue, weighted by organization size, while productivity was also rated positively by business leaders. Nearly half of employees reported increased productivity, with notable reductions in stress and burnout rates for many participants. Despite some employees experiencing increased workloads, creativity at work improved for more than half of participants, and 90% expressed a desire to continue the 4DW.
PORTUGAL (2024) **Participating organizations:** 41 (21 started the 4DW with the pilot program, 20 adopted it earlier) Trialing employees: over 1000 **Date of pilot:** June - November 2023 **Data collection:** Questionnaire-based organization- and employee surveys, interviews **Data sample:** 31 organizations provided final survey data, 225 employees completed all three questionnaires plus control data from 14 organizations with data of 160 (Prepilot) / 122 (after 6 months) / 76 (both) employees; no information about number of conducted interviews	The findings of the 4DW trial in Portugal suggest positive outcomes both financially and operationally. Despite not collecting direct financial data, many business leaders reported increases in revenue and profits in 2023, indicating no negative impact on financial performance. Operational benefits included reduced absenteeism, improved recruitment, lower staff turnover, and enhanced worker commitment. Workers experienced better mental and physical health, with significant improvements in life satisfaction and relationships. Additionally, managers noted cost savings in areas such as energy and office expenses. The vast majority of employees (93%) expressed a desire to continue the 4DW, emphasizing its benefits for work-life balance, stress reduction, and overall well-being.
BRAZIL (2024) **Participating organizations:** 21 in Brazil Trialing employees: 280 **Date of pilot:** January - June 2024 **Data collection:** Questionnaire-based organization- and employee surveys **Data sample:** 19 organizations provided survey data, ~207 (80,2%) employees completed all three questionnaires	The preliminary results of the 4-Day Week Brazil study suggest that the introduction of a 4-day week has positive effects on employee satisfaction and productivity. Participants reported an improved work-life balance and an increased sense of well-being. Nevertheless, challenges were also identified, particularly in relation to deadlines and external requirements, which could potentially affect the implementation of the model.

3. SAMPLE DESCRIPTION

3.1 PARTICIPATING ORGANIZATIONS

3.1.1 ORGANIZATIONAL SAMPLE & DESCRIPTIVES

As outlined in section 2.2, 51 organizations were initially recruited and selected to take part in the German pilot study. However, during the preparation and planning phase, six organizations ultimately decided not to proceed with the 4DW and chose to exit the study. The reasons for their decisions varied. One organization was facing economically challenging times and did not want to add pressure by introducing a major organizational change. Another organization, which relied on billing clients based on hours worked, struggled to adapt to a more output-based model and reprioritized current initiatives accordingly. A small organization with fewer than 10 employees experienced a staff shortage due to a long-term sick leave of a key employee, making it impractical to move forward with the 4DW under those circumstances. Another organization determined through internal evaluation that implementing the 4DW would not be feasible with their current staffing levels without affecting service times. Additionally, one organization encountered substantial difficulties in organizing and planning the 4DW, demonstrated by shifting responsibilities for implementation. Finally, one organization's attempt to adopt the 4DW was blocked by its works council, which rejected the proposal.

These various reasons for non-participation highlight that the preparation of a 4DW requires considerable time, careful planning, and the full support of management and key personnel. Without this support and sufficient organizational readiness, implementing a 4DW can be particularly challenging, especially in industries or organizations that already face operational or structural difficulties.

The sample going forward consisted of 45 organizations, all but one headquartered in Germany and spread across the country. While one organization is headquartered in the UK, the participating division is based in Germany. The map provides an overview of the geographic distribution of our sample. If one organization has participants at multiple locations, each one is represented on the map.

The participating organizations span a wide range of industries. Consistent with pilot studies in other countries, the largest share of organizations came from the professional and other services sector, accounting for approximately 36% of the sample. The two next largest sectors are manufacturing and construction (18%) and healthcare and social services (13%). Other significant sectors included IT and telecoms, utilities, education, arts, entertainment, and media, retail, and food, each representing between 4% and 7% of the sample.

The participating organizations display notable variation in size. Small organizations, defined as those with 10 to 49 employees, make up the largest portion, accounting for 54% of the total sample. Medium-sized organizations, with 50 to 249 employees, represent 19%, while large organizations, with over 250 employees, constitute 14%. Additionally, very small organizations, defined as those with fewer than 10 employees, comprise 13% of the sample.

While the majority of organizations (51%) began their six-month pilot phase as scheduled in February 2024, some organizations (13%) started earlier. Others (35%) delayed their start dates to

REASONS NOT TO START THE 4DW

6 organizations have NOT introduced a 4DW and left the pilot study during the preparation phase. The main reasons can be broken down as follows:

- Economically challenging time
- Works council rejects participation
- Staff shortage/sick leave
- Challenges in organizing 4DW implementation
- Implementation after internal revision not feasible
- Other priorities

March, April, May, or June. For organizations that adjusted their starting dates, we adapted the research timeline accordingly. Two organizations chose a stepwise approach, first reducing weekly work hours to 36 before moving to 32 hours. One organization delayed its start until January 2025 and, as a result, is not included in this report since its trial is still in the planning phase. The remaining 44 had approximately 900 employees who switched to a 4DW.

Among the remaining sample of 44 organizations, one further organization was excluded from the analysis due to its decision to reduce salaries in proportion to the reduction in working hours. This approach essentially reflected a transition to part-time work, which does not align with our key selection criteria for the 4DW trial. The decision to cut salaries proportionally was not communicated during the recruitment and selection phase but was brought to our attention during the interview process. While data collection for this organization continued, we decided to exclude it from further analysis in this report, further reducing the sample to 43 organizations.

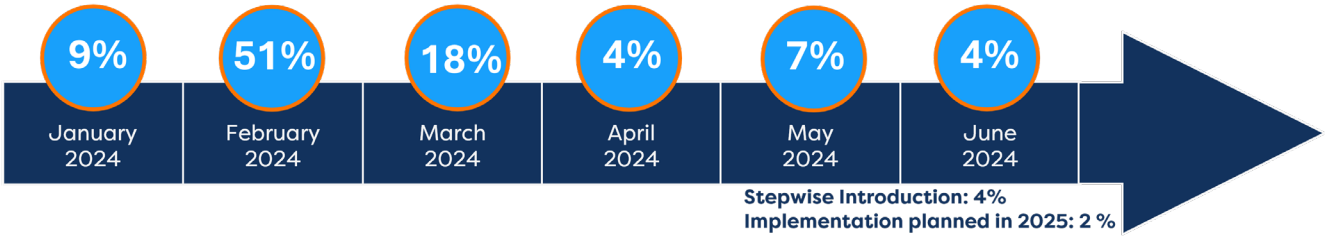
Additionally, two organizations discontinued their participation after two months and reverted to a five-day week by May 2024. One of these organizations chose to exit the pilot due to broader economic challenges unrelated to the 4DW. This organization had adopted the 4DW for a subset of their employees, while others in the same organization continued working a five-day schedule. As economic pressures intensified in 2024, employees working a five-day week had to utilize their overtime hours and were on the verge of entering a short-time work phase.[1] The imbalance between employees piloting the 4DW with full pay and those preparing for short-time work created internal disparities. In the end, it was a political decision to terminate the trial in order to avoid major dissatisfaction and conflict between the two groups.
The second organization that exited after two months cited "economic reasons" as their rationale to discontinue. Although they had only implemented the 4DW for a small portion of their workforce, it remains unclear whether their exit was due to economic concerns or challenges similar to the ones experienced by the other organization that exited the trial. Interviews conducted at the beginning of the trial indicated that not all members of the organization were convinced of the potential benefits of the 4DW, and the project did not have full support from the leadership team. Interestingly, both organizations that chose to exit the trial were large organizations, each with more than 250 employees. As a result, the analysis presented in this report is based on the remaining 41 organizations that fully implemented and continued the 4DW.

In the remaining 41 organizations, 60% implemented the 4DW for all or nearly all of their workforce (i.e., more than 90% of employees), while 40% applied a reduction only to selected employees or specific teams. Additionally, organizations took various approaches in dealing with the inclusion of part-time staff in the trial. Some chose to exclude part-time employees during the pilot period, deferring the decision on how to include them until after the study. Others reduced part-time staff hours proportionally to the reductions made for full-time employees (e.g., reducing 10% of working time for both full-time and part-time staff, resulting in a part-time schedule of 18 hours instead of 20). A further group of organizations opted to increase the salaries of part-time employees to align with the compensation adjustments for full-time staff during the trial.

1 Short-time work, called "Kurzarbeit" in German, is a temporary policy that allows companies to reduce employees' working hours during economic downturns, with the government compensating a portion of their lost wages to avoid layoffs.

START MONTH

Start month of the introduction of the 4DW of the organizations in %



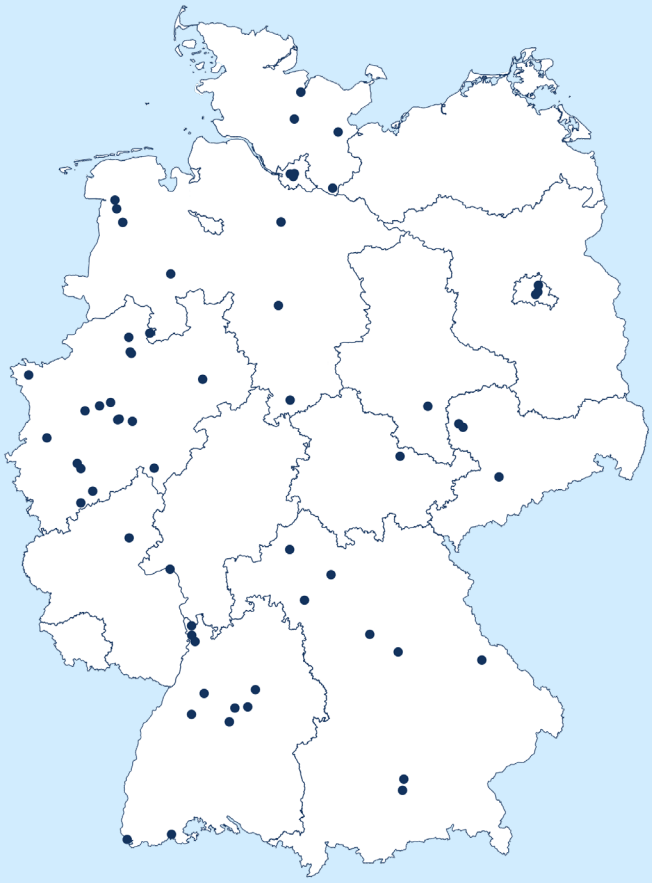
ORGANIZATION CHARACTERISTICS

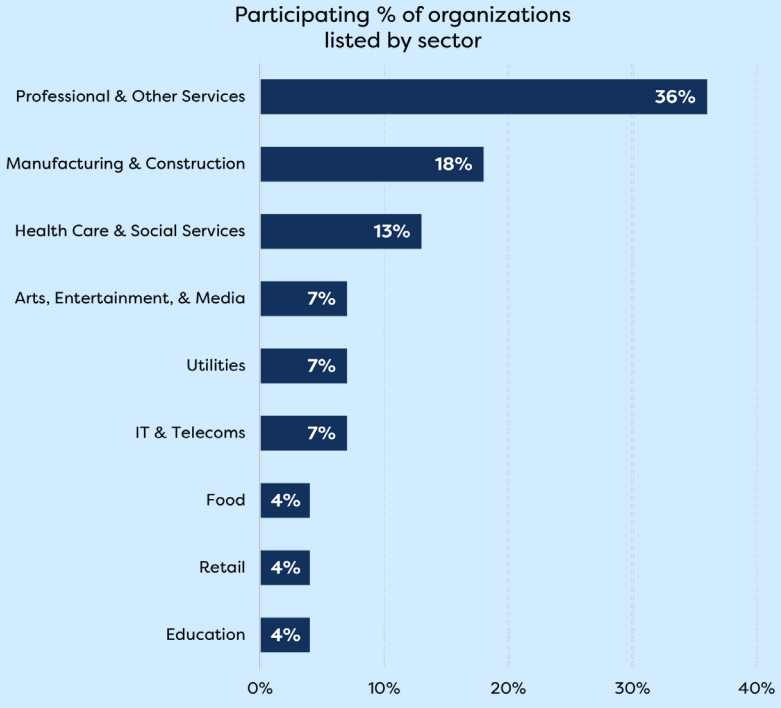
13% Micro organizations, between 1-9 employees

54% Small organizations, between 10-49 employees

19% Medium-sized organizations, between 50-249 employees

14% Large organizations, 250 employees or more





3.1.2 EXPECTATIONS & MOTIVATIONS

The decision to implement the 4DW in the remaining 41 organizations was driven by a range of expectations and strategic goals. In the interviews with top management, leaders, and initiators, many organizations viewed the 4DW as a means to enhance employer attractiveness (89%), with specific aims of improving employee retention, recruitment, job satisfaction, and standing out from competitors.

“I hope we get one or two applications.”

Top Management, Health Care & Social Services

“We have to make sure that we become more attractive as an employer.”

Top Management, Professional & Other Services

“Last year, we were significantly affected by resignations, including long-term colleagues. The issue [is] employer attractiveness—drawing in skilled workers, but especially retaining those who have been with us for a long time. [...] We aim to create a unique selling point that not every company currently offers.”

Leader, IT & Telecoms

Organizations also aimed to improve employee well-being and health by fostering a better balance between work and personal life, with the added goal of reducing absenteeism. This motivation was reported by 77% of the organizations who highlighted health, well-being, and work-life balance as key reasons for implementing the 4DW.

"I can definitely imagine that if you only work four days a week and have three days of rest, it would have a positive impact on reducing sick leave."

Top Management, Health Care & Social Services

"They have been getting sick more frequently. I also believe we can address that with it. Therefore, it’s important to us that our employees feel comfortable here and enjoy working here. [...] This focus on quality—both the quality of work and the quality of life that we can improve through this."

Top Management, Professional & Other Services

The third most frequently cited expectation, mentioned by 57% of the organizations, was related to productivity. Organizations anticipated that the 4DW will enhance productivity by encouraging a more focused and efficient work schedule. They believe that by optimizing workflows and reducing working hours, employees will be able to concentrate better on their tasks, leading to greater overall efficiency. These organizations see the 4DW not just as a way to reduce hours but as a strategic move to improve how work is done.

"The goal is, of course, to gain insights from the change, perhaps to somehow increase productivity and gain new understanding”

Leader, Manufacturing & Construction

"It is really about significantly increasing productivity.”

Top Management, Utilities

Other organizations (37%) view their participation in the 4DW pilot as a progressive step toward aligning with future work trends. They aspire to be pioneers in adopting new work practices and schedules, seeing their participation as an opportunity to experiment with innovative approaches and prepare their organizations for the future.

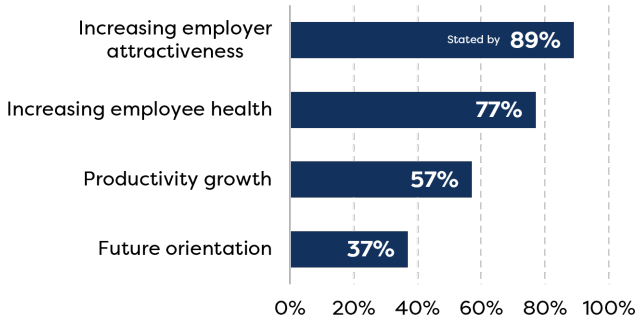
"But of course, we also want to do justice to our entrepreneurial path, and for me, the four-day week is an initial step to try it out, gather experience, and see what the right work-time model will be for us in the future"

Top Management, Professional & Other Services

“I just don't think the five-day week is sustainable in the future.”

Top Management, Professional & Other Services

ORGANIZATION OBJECTIVES



3.1.3 EMPLOYEE INVOLVEMENT

Each organization was granted the autonomy to determine its own approach to implementing the 4DW. Based on survey data, among these organizations, approximately 70% chose to involve their employees in the decision-making process to some degree. In contrast, 11% opted to make this decision exclusively within the leadership team, suggesting a more centralized approach. The other organizations did not specify whether they involved their employees or not.

"Everything, we involved them in everything. As I said, the entire decision-making process was carried out together with the employees. [...] Who organizes what? Who gets which days off? How will it be done?"

Initiator, Health Care & Social Services

"[...] people knew the basics, but they weren't allowed to make the decisions because we made them for them."

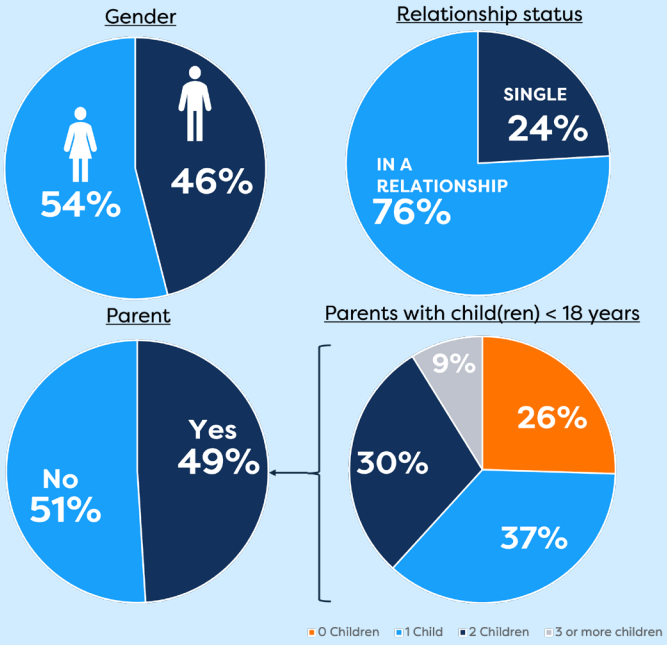
Top Management, IT & Telecoms

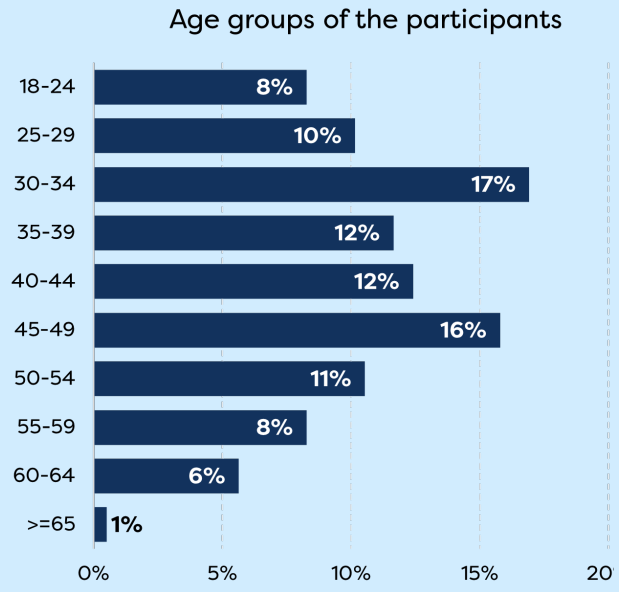
3.2 PARTICIPATING EMPLOYEES

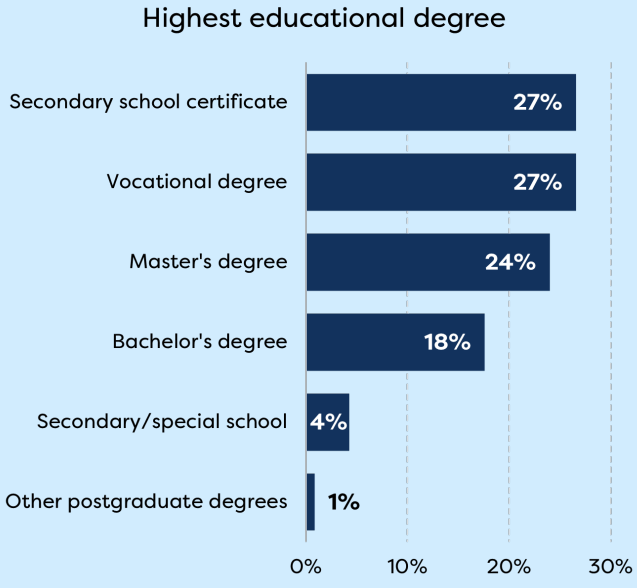
Our sample comprises slightly more women (54%) than men (46%) and exhibits a fairly normal age distribution, with the median age ranging between 40 and 44 years. Over 55% of the entire sample is between 30 and 49 years old. Furthermore, our sample demonstrates high levels of education, with over 95% of participants having completed at least a high school degree and more than 40% holding at least a Bachelor's degree. In line with the diverse industries represented at the firm level, study participants encompass a wide range of different occupations. While clerical support workers constitute the largest group, they represent only 20% of the sample. Conversely, traditional blue-collar occupations (i.e., non-office work, such as production or craft) account for over 20% of the sample.

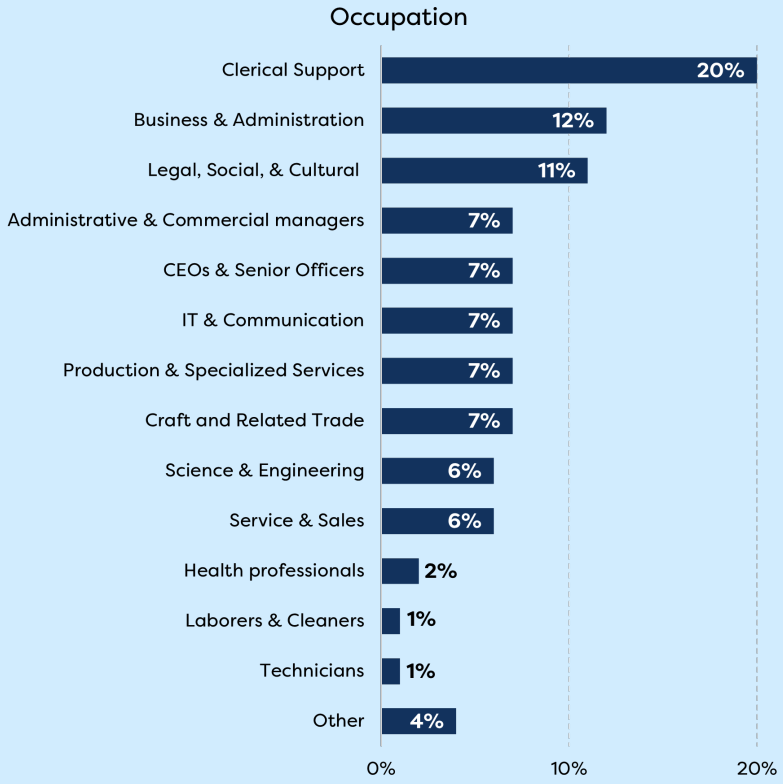
Approximately 76% of our participants are in a relationship with a partner, and nearly half of the sample (49%) have children. Among these parents, over 70% have at least one child who is under 18 years old and lives together with them at home.

PARTICIPANTS CHARACTERISTICS









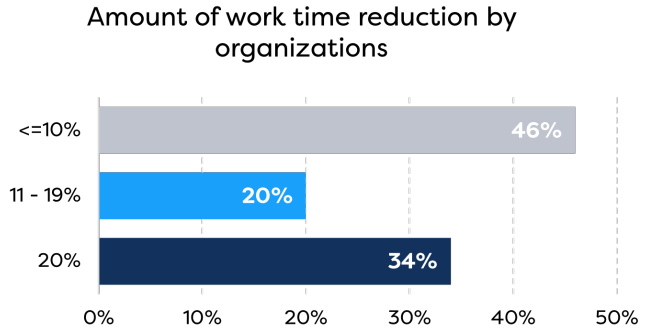
4. WORK CHARACTERISTICS OF THE 4DW

4.1 WORK TIME

Each organization implemented varying reductions in working hours. Specifically, 46% of organizations reduced their working hours by 10% or less. Additionally, 20% of organizations decreased their hours by 11% to 19%, while 34% opted for a reduction of 20%. This also implies that 34% of organizations reduced the work week by an entire day without any work time compression, while the rest involved some redistribution resulting in more hours on the remaining four days.

85% of organizations designated a full day off, while 15% of organizations offer alternative models, such as a day off every two weeks or allowing employees complete freedom to decide how to distribute their working hours. Further, in approximately 60% of the organizations, employees do not have the same day off. Conversely, 40% of organizations have established a consistent day off for their employees, ensuring that everyone has the same day free each week. 51% designated Friday as the fixed day off, 17% designated either Friday or Monday, and 32% opted for various other combinations including free choice or alternating days.

WORKTIME REDUCTION



Overall, participants significantly reduced their work time, both in terms of weekly work hours and weekly workdays. However, on average, the new workweek consists of four and a half days rather than four days. This finding aligns with qualitative evidence indicating that many participants, particularly in organizations with flexible arrangements, faced challenges in strictly implementing one completely free day. While some were able to overcome this difficulty after a transitional period, others maintained the fifth day largely free but did not refrain from working occasionally. Even in these instances, which included occasionally being unable to take the day off or sporadically working for half an hour, participants generally succeeded in substantially reducing their overall work time.

"It has worked out relatively well that [...] I can take a whole day off."

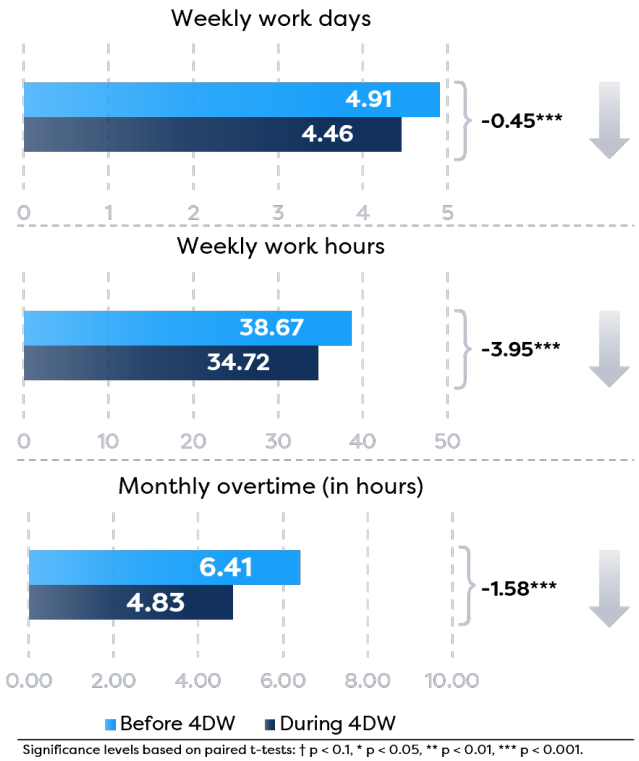
Employee, Professional & Other Services

"Not regularly, but sometimes it just can't be helped. [...] I've had days off where I did absolutely nothing, but I've had days off where I've worked for half an hour or an hour."

Employee, IT & Telecoms

Crucially, the reduction in normal working hours was not achieved at the cost of increased overtime hours. On the contrary, monthly overtime hours also decreased significantly.

WORKTIME REDUCTION CONT



Significance levels based on paired t-tests: † p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001.

4.2 MEASURES PRIORITIZED BY ORGANIZATIONS

"My conclusion is [...] that this model as such really needs to be guided. [It's] not a new, modern working time model that you just slap on and everyone screams hurray. [...] We need a mindset to approach the topic of the 4-day week as a cultural change and not just as a working time model that you click on and say: So, from now on, he's only here for four days."

Initiator & Leader, Professional & Other Services

In the organizational-level survey, key respondents were asked to rate various measures by their relevance for introducing the reduction in working hours in their organization. The most highly rated measure was the active involvement of employees, with 90.7% of respondents finding it either very relevant or relevant. Clear communication of benefits and expectations was also deemed important by 87.5% of respondents. Adaptation of work processes followed closely, with 84.4% of organizations rating it as very relevant or relevant, while changing the meeting culture (68.8%) and reduction of distractions (56.3%) were also considered important measures. However, measures such as introducing new digital tools/systems (40.6%) and spending less time on non-work-related discussions (37.6%) were rated lower in relevance. While measures such as comprehensive training, networking with other organizations, and coaching/trainers to accompany the change were less prioritized, around a third of the organizations still rated them as very relevant and relevant.

4.3 MEASURES IMPLEMENTED BY EMPLOYEES

Most organizations did not implement the 4DW in isolation; rather, they accompanied it with other measures intended to compensate for the lost time and enhance productivity. While the specific measures varied depending on the context, we identified certain patterns during the interviews that were further substantiated by quantitative data. According to this data, most participants reduced distractions (65%) and optimized processes (63%).

"From that one day that you are missing, you push through. [...] you don't have those little breaks or surf the internet for fifteen minutes or something like that"

Employee, Professional & Other Services

"These are little things where you say to yourself, we simply have been wasting time [...]. And these are such simple process optimizations that we are working on to really save a lot of time."

Top Management, Professional & Other Services

Likewise, over half of the respondents (52%) adapted their meeting culture by either cutting or shortening meetings to save time. In this context, it is noteworthy that not all measures are suitable for every job. For instance, traditional meetings play only a minor role in the daily work of many employees in social work or production, and these employees have limited control over the organization of the remaining, often obligatory meetings.

"Yes, well, one meeting actually disappeared; it went from once a week to once a month, and that's a good improvement. And two meetings have actually been eliminated."

Employee, Arts, Entertainment, & Media

"Sitting in a meeting [...] with a topic that I only come across very, very peripherally afterwards anyway [...] is stolen time for me"

Top Management, Professional & Other Services

This context dependency partly explains the relatively low share of participants utilizing digitalization (25%). However, our qualitative analysis also reveals a pattern of missed opportunities and, at times, frustration with slow change processes regarding digitalization. While both management and employees consistently emphasized the significant potential of digitalization before the trial, some expressed disappointment about the lack of targeted implementation during the trial.

"And so I'm now slowly trying to digitalize that a bit, piece by piece, so that I can work from home."

Employee, Utilities

"We are still working on making progress in digitization, which may make processes easier. [...] We are still a long way from the end [...] I think that not much has happened yet, to be honest, because there are absolutely fundamental structures in one place or another that cannot be changed overnight."

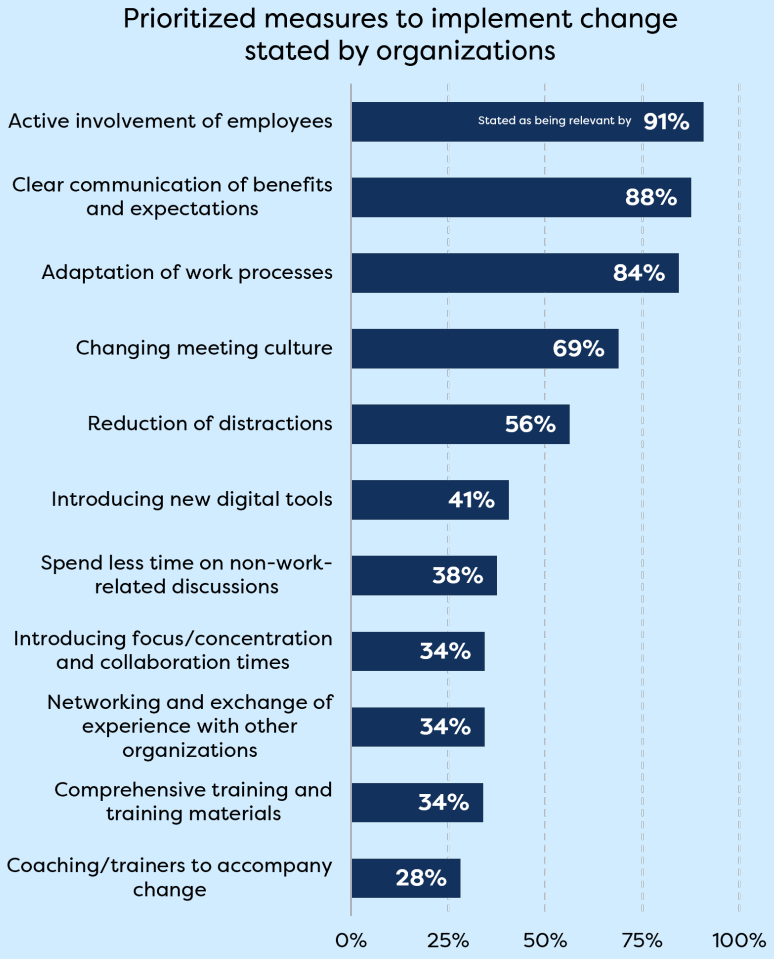
Employee, Professional & Other Services

Finally, 32% of participants reported regularly using focus time. As a specific measure inherently linked to efforts to reduce distractions, this practice exemplifies how different measures can reinforce one another. For instance, one participant in an organization reported utilizing digitalization through an app that automatically closes all communication programs during focus time to minimize distractions.

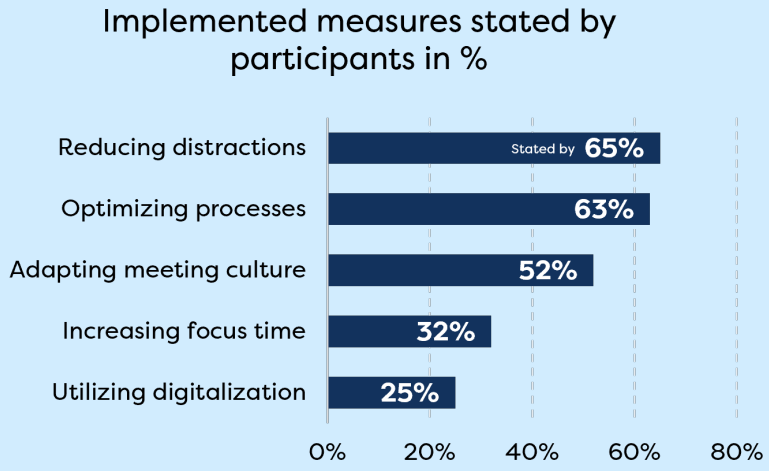
"Focus time ensures that I can concentrate on what I really want to do. [...] We have programmed a small tool for this. [...] When the focus time starts, it closes all means of communication [and] virtually eliminates all external things that can get on my nerves."

Top Management, IT & Telecoms

IMPLEMENTED MEASURES BY ORGANIZATIONS



IMPLEMENTED MEASURES BY PARTICIPANTS



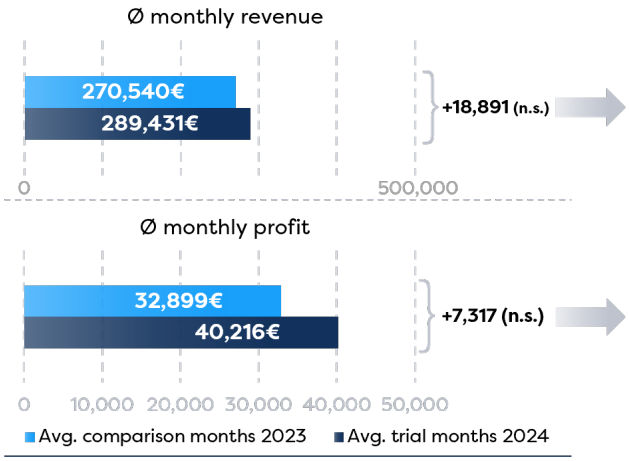
5. PERFORMANCE & PRODUCTIVITY

We could not utilize organizational-level measures of performance based on revenue and profit for our entire sample due to several reasons:

- Publicly listed firms are legally obliged not to share firm-level performance data before official public reporting.
- The non-profit organizations in our sample do not always track turnover or revenue; even if they did, these metrics would not constitute sensible output measures.
- The larger organizations in our sample typically did not implement the 4DW for the entire workforce, but only for selected departments and/or locations. While these cases are particularly valuable for our research design as they allow for comparisons with control groups, organizational-level output measures cannot effectively capture the productivity of only a small part of the workforce.

Nevertheless, we received revenue and profit figures from 12 organizations, and our analysis revealed that there were no significant changes between the pilot period of 2024 and the same period in 2023. Hence, we do not find any evidence that the introduction of the 4DW substantially affects revenue and profit.

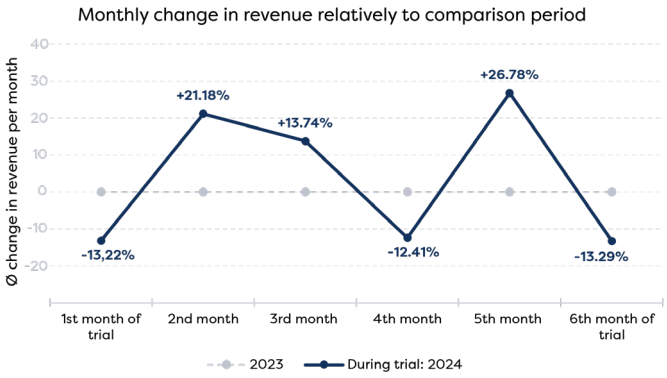
PERFORMANCE INDICATORS



Significance levels based on paired t-tests: n.s. = not significant, † p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001.

To illustrate the revenue differences between the 4DW trial and the comparison period, we compared the monthly revenue in 2024 with the corresponding monthly revenue in 2023. Herein, the change in revenue fluctuated substantially, with both increases and decreases. As a result, we cannot draw a definitive conclusion about the overall impact of the 4DW on organizational revenue.

REVENUE DIFFERENCES



While revenue and profit are performance indicators, productivity is an efficiency measure that compares production input with production output. Thus, productivity can be increased by achieving the same or even higher output with less input. However, even a decrease in output can indicate higher productivity if the input is smaller than the corresponding decrease in input. In the context of a 4DW, the decisive input factor is work time, which naturally decreases with the introduction of this model. If revenue and profit remain stable while working time is reduced, this suggests an improvement in productivity, as the same financial performance is achieved with less input (i.e., fewer working hours).

However, it is important to interpret any results based on organizational metrics cautiously. First, the relation between working hours and output in terms of financial indicators like revenue is not the sole measure of productivity. Moreover, the corresponding output is not as clearly defined, making the measurement of productivity particularly challenging. In addition, comparability both within organizations over time and between different organizations is challenging due to numerous factors (e.g., broad economic conditions, differences between industries, and special organizational characteristics). Further, we only obtained data from a small number of organizations limiting statistical power of our analysis.

To address these challenges, we also utilize a combination of self-assessments and external assessments (e.g., assessments of employees by their leaders) based on quantitative and qualitative data. While self-reported performance measures have limited reliability due to social desirability bias or overconfidence, the assessments of supervisors and managers are far less susceptible to these issues. At this point it should be emphasized that this study was not designed to explicitly investigate the effect of the 4DW on organizational outcomes such as revenue and profit.

As a self-assessment on organizational level, we asked the top management of the organizations whether they perceived the influence of the 4DW on productivity and performance as negative (0) or positive (10). The average responses were 6.7 for productivity and 6.8 for performance, indicating a generally positive perception of the changes and confirming that no negative effects were observed.

"I can already say that our sales in March and April were the same as last year. So right now the numbers are exactly the same as last year."

Top Management, Professional & Other Services

On the employee-level, the survey data indicate a significant increase in self-reported productivity for employees shifting to a 4DW schedule, while the self-assessed productivity of employees in the control group did not change significantly (wave 1: 7.25; wave 3: 6.83; p=0.274). Further, we observe a significant difference in self-reported productivity between the 4DW group and the control group in wave 3 (4DW: 7.69; control: 6.83; p=0.002). These findings suggest that the increase in employee-level productivity is indeed connected to the 4DW trial, which is also supported by self-assessments and external assessments in qualitative reports.

"I actually manage even more than before, because [I'm] simply on the road less."

Employee, Food

"The main added value in the craft [...] is simply the recruitment of employees. If we attract employees who deliver even better quality [...] and in less time, that's great."

Top Management, Manufacturing & Construction

"People are just somehow, well, how can you put it, more relaxed [...]? If you ever want something from them, it's quicker, it's not a problem now, otherwise it was always a huge problem."

Leader, Manufacturing & Construction

After introducing the 4DW, the pace of work increased significantly, while no significant changes in workload were observed. In contrast, in the control group, both the pace of work (wave 1: 7.03; wave 3: 7.08; p=0.874) and the workload (wave 1: 6.97; wave 3: 7.11; p=0.723) did not change significantly, suggesting that the increase in the 4DW group is indeed connected to the 4DW instead of other external factors. This finding aligns with our quantitative results regarding productivity and is also supported by qualitative evidence indicating that most employees did not adjust the amount of work but instead completed the same workload in less time.[1]

"I notice that on Fridays, when I take Monday off and work on Friday, it's an extremely productive day because we don't have any internal meetings and so there's plenty of time for concentrated work. And that's why I can definitely get the same work done in a shorter period of time."

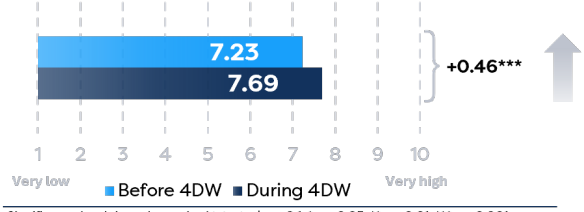
Top Management, Arts, Entertainment, & Media

"If it took me ten hours to do an accounting job, and now it only takes seven hours thanks to digitization, then I've already saved three hours per client, right?"

Employee, Professional & Other Services

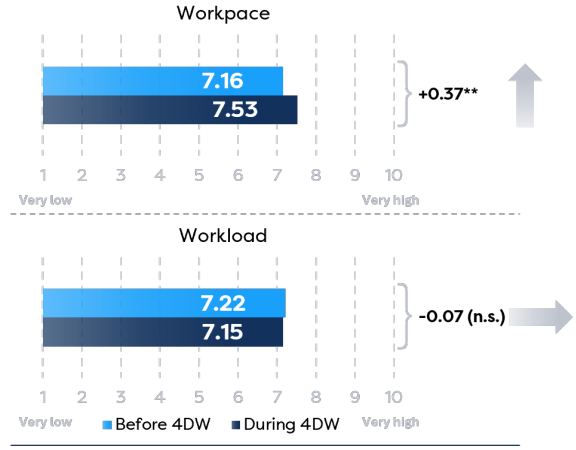
Unfortunately, we received individual-level objective performance data from only two organizations. While no significant differences in employee performance were observed when comparing the 6 months of the trial to the same period in the previous year, the data is insufficient to draw definitive conclusions. As a result, we have not included this data in the reporting.

PERCEIVED PRODUCTIVITY



Significance levels based on paired t-tests: † p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001.

WORK INTENSITY



Significance levels based on paired t-tests: n.s. = not significant, † p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001.

1 One potential problem that became evident during the interviews was that participants were not aware of the technical definition of productivity and sometimes conflated it with output. Specifically, employees regularly reported that their productivity did not change because they completed the same amount of work as before. In these cases, when asked more specifically, they clarified that they managed to do the same amount of work in less time, which clearly implies an increase in productivity. This colloquial understanding of productivity might also bias the self-reported productivity. However, such a bias would not change the general trend and would even imply that the measured increase in self-reported productivity is an underestimation.

6. SATISFACTION & EMPLOYER ATTRACTIVENESS

6.1 SATISFACTION

"This is actually a dream come true."

Employee, Professional & Other Services

Over 90% of participants reported that the 4DW increased their overall well-being, with 50% reporting that it contributes 'Quite a lot' or 'A lot'.

In the same vein, participants experienced a significant increase in overall life satisfaction. A closer look at the different dimensions of life satisfaction reveals that this development is driven by a substantial increase in satisfaction with the amount of time participants have for things they like. Since the control group did not show any significant changes in this measure (wave 1: 5.68; wave 3: 5.82; p=0.742), we do not have any reason to believe this change is driven by external factors, such as seasonal variations. Further, the comparison between 4DW and the control group in wave 3 also reveals a marginally significant difference (4DW: 6.61; control: 5.82; p=0.057). This intuitive result of a work time reduction resulting in higher levels of satisfaction due to an increased amount of free time is also evident in common experiences shared during the interviews. These experiences refer to general statements regarding available time and quality of life, as well as regarding the available time for specific activities, which we discuss in more detail in section 8.

"I went in with relatively low expectations, [but] the quality of life that you gain when you have [...] more time for other things, [...] I think that's just great. I didn't expect it to be like this, but I take it with me as something, yes, quite nice."

Employee, Professional & Other Services

"Regarding my own team members, I can see that it has been very well received. Employee satisfaction has increased."

Leader, Professional & Other Services

In contrast to overall satisfaction, we do not find strong quantitative evidence for a positive change in job satisfaction specifically, since the small increase after introducing the 4DW is statistically insignificant. This is surprising as the reason for the reported substantial increase in quality of life ultimately lies in a work-related change. Likewise, it is not in line with our qualitative evidence, where employees consistently stated that the 4DW made their employer more attractive.

"A four-day week is, of course, more attractive than working five days a week [...] while also getting the same pay."

Employee, Health Care & Social Services

"So it's very attractive to work only four days and get the same pay. You have to try to offer something to improve things a little."

Leader, Health Care & Social Services

A possible explanation for the insignificant increase in job satisfaction could be that job satisfaction was already relatively high across all participating organizations. In fact, even before the trial, job satisfaction was rated higher (7.24) than the other three facets of life satisfaction (5.05 to 7.09), which may have provided less room for improvement.

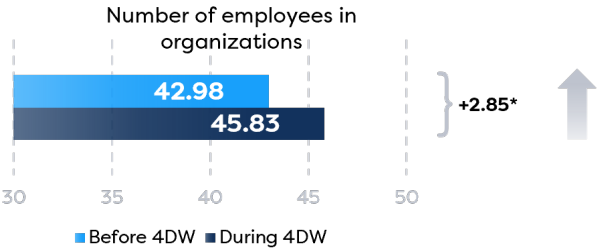
"The fact that we already had very flexible working hours means that it's actually just another goodie on top."

Leader, Professional & Other Services

6.2 RECRUITING

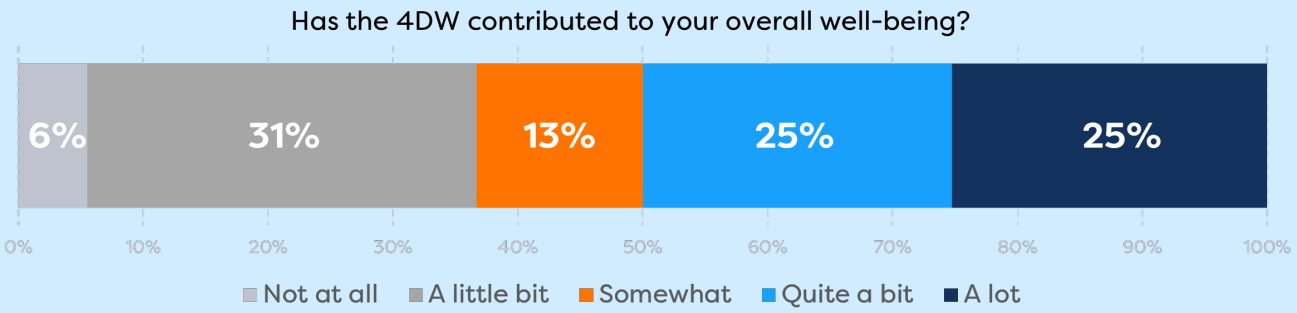
The number of employees within the organizations significantly increased during the pilot period. This upward trend suggests that the participating organizations are growing and capable of attracting new employees. While we cannot generally attribute this growth to the 4DW, some organizations did in fact hire new employees specifically to counteract the reduced working hours in the existing workforce.

NUMBER OF EMPLOYEES

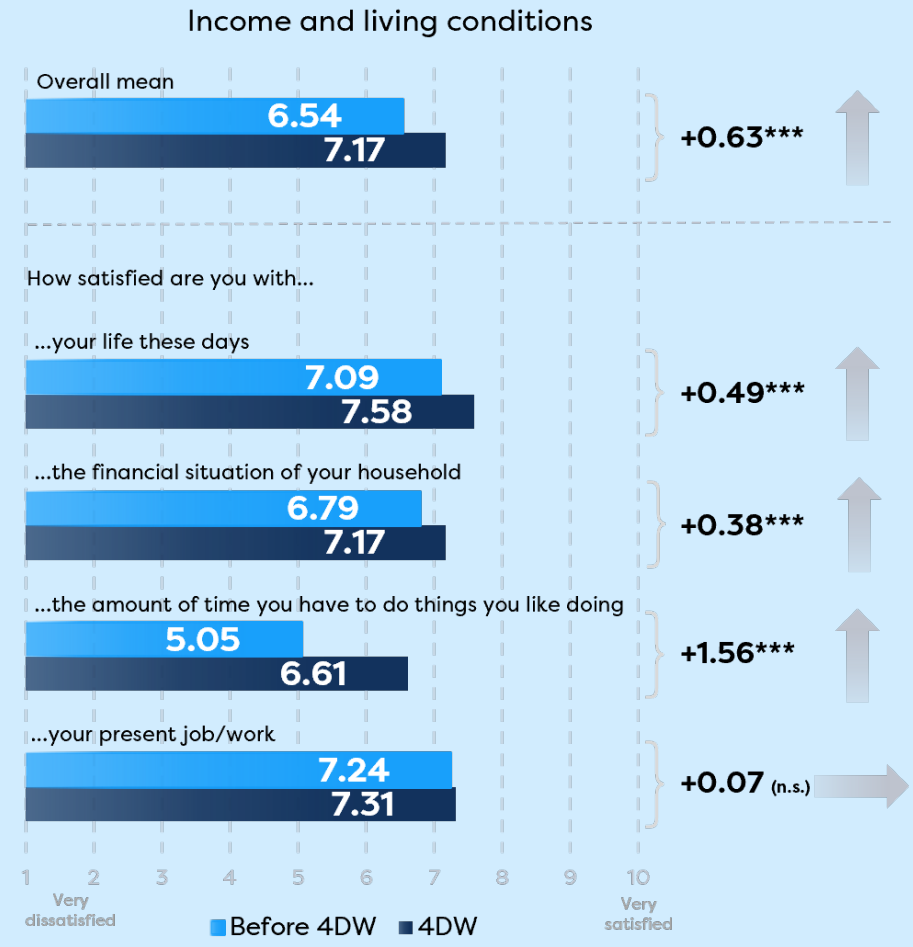


Significance levels based on paired t-tests: n.s. = not significant, † p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001.

WELL - BEING



SATISFACTION



Significance levels based on paired t-tests: n.s. = not significant, † p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001.

"We increase staffing levels in the areas where we need it [...] so new personnel will have to work with us during that time."

Top Management, Health Care & Social Services

"We have to be available 24/7 or have staff on standby. Then [...] we increase the number of staff for that period. If we continued with the current staff, we would jeopardize our operating license because we have very clear requirements [...] for how many staff hours I have to deploy."

Top Management, Health Care & Social Services

Furthermore, multiple organizations reported that their intention to use the 4DW as a tool for recruiting new talent (see section 3.1.2) already materialized in an increased number of applications and successful new hires.

"In the last 4 weeks, we have already received 30 applications [...] due to the fact that we are already advertising the 4-day week in our external communications."

Employee, Professional & Other Services

"I definitely noticed that the four-day [week] was an incentive when we advertised jobs. That it was met with nothing but positive approval and that many people simply saw it as a benefit in their application [...] We are still receiving applications for positions that have expired. More than I noticed before."

Top Management, Professional & Other Services

"We see our colleagues' posters are still up everywhere [...] we're looking for apprentices [...] and we keep getting requests, can't we basically start apprenticeships with you, dual studies apparently we're perceived as attractive again. So we no longer have the problem of a lack of young talent. And since the signs of the others are still up, I assume [...] they don't have received anything."

Top Management, Professional & Other Services

However, it is worth pointing out that, while this direct positive effect on recruiting is a common theme, it is by no means a universal experience within our sample. Many organizations did not utilize the 4DW at all in their recruiting efforts, some because they did not openly communicate their participation in the trial at all, others because they did not want to utilize the 4DW in job advertisements as long as it is only a trial phase.

"I wouldn't feel comfortable luring someone to us with a four-day week now, when I know at the moment that it's a pilot for six months and I don't know what will happen after that."

Top Management, Sales

Occasionally organizations that actively utilize the 4DW in their recruiting efforts expressed disappointment about a lack of positive results.

"We haven't received a single application because of the four-day week [...] As it stands, we have not achieved the goal of making ourselves more attractive than the others."

Top Management, Health Care & Social Services

In the end-term survey, top management reported that the 4DW positively affected their employer attractiveness, with 50% stating that it had improved their ability to attract skilled workers and an additional 19.8% indicating substantial improvement. Notably, no respondents indicated that the 4DW had worsened their employer attractiveness. Additionally, when asked to rate their organization's ability to attract new employees, the average score was 6.8, reflecting a generally positive perception of recruitment capabilities by the end of the trial.

6.3 RETENTION

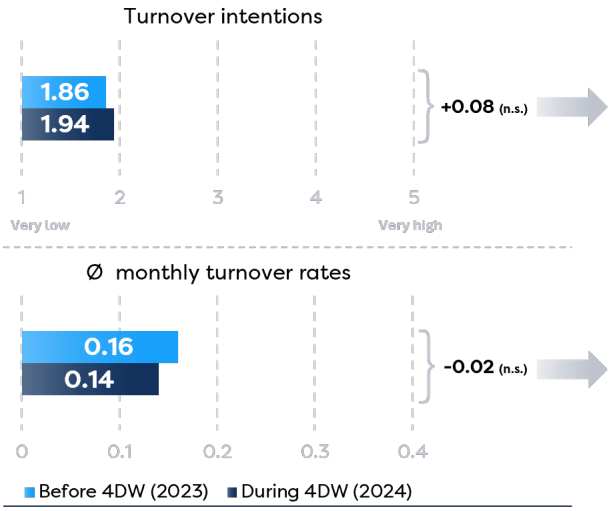
The analysis of organizational data reveals that employee turnover rates have not significantly changed as a result of the 4DW trial. Although there is a slight decrease of resignations per employee, it is not statistically significant. These findings indicate a stable workforce with no notable trends towards increased or decreased resignations linked to the 4DW trial.

Likewise, we found no significant change in turnover intention on the employee-level. However, this lack of change can be explained by the fact that turnover intentions were already low before the trial and remained low throughout. Specifically, over 70% of participants disagreed or strongly disagreed with seriously considering quitting their current job at both time points. This notion is further supported by our qualitative insights, where virtually no respondents expressed any serious turnover intentions.

In the end-term survey, top management reported that the 4DW in terms of retaining current staff, 53.1% of top managers indicated that the 4DW had improved retention, while 31.3% reported that it had substantially improved retention. Again, no respondents indicated that the 4DW had a negative impact on retaining existing employees. This discrepancy between objective measures

and employee perceptions on the one hand and management perceptions on the other hand might indicate that managers overestimate the positive effect of the 4DW implementation.

RETENTION



Significance levels based on paired t-tests: n.s. = not significant, † p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001.

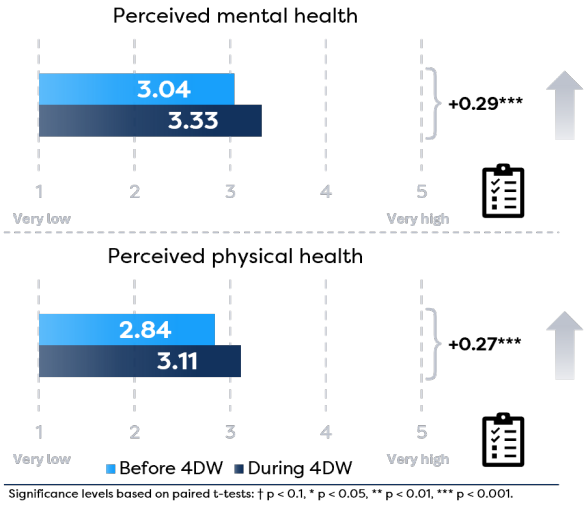
7. HEALTH

In the survey, participants were first asked to rate their mental and physical health over the past four weeks. The results show a significant increase in both perceived mental and physical health when comparing the period before and during the 4DW. The control group showed no significant change in either mental health (wave 1: 2.91; wave 3: 3.00; p=0.521) or physical health (wave 1: 2.77; wave 3: 2.91; p=0.361) implying that the changes in the 4DW group are not driven by seasonal changes, such as the weather. Improvements in mental and physical well-being are commonly attributed to reduced stress levels, improved physical activities, and regeneration through stable sleeping behaviors.

To objectively assess these perceptions, we equipped participants with Garmin® smartwatches to track stress levels, physical activity, and sleep behavior. This provided additional data to complement the subjective assessments of the 4DW's impact on employee health through physiological data. For clarity in the graphical illustrations, the respective data source is indicated with icons representing either a smartwatch or a survey.

The data generated by the smartwatches relate to one day per participant. For instance, if a participant wore the smartwatch for 90 days after the introduction of the 4DW, the dataset for that individual would contain 90 data points regarding stress levels, activity levels, and sleep behavior. After cleaning the dataset to remove erroneous or incomplete data, the analysis is based on a total of 15,110 observation days during which stress levels and physical activity were recorded (4DW: 12,861 observation days; control: 2,249). The data for analyzing sleep behavior are based on a total of 13,969 observation days (4DW: 11,825; control: 2,144). Differences in the number of observation days arise from instances where the smartwatches were not worn consistently, particularly at night, or when the devices' batteries were depleted.

HEALTH



Significance levels based on paired t-tests: † p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001.

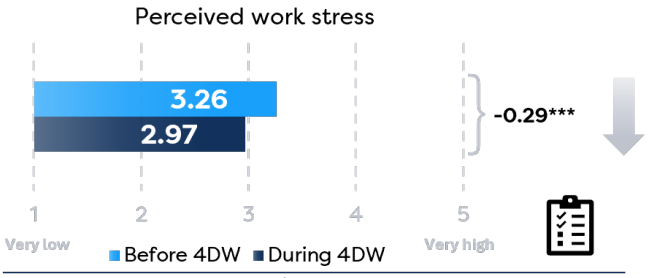
7.1 STRESS

In the survey, participants reported a significant reduction in work-related stress following the implementation of the 4DW, whereas we do not observe any significant change in the control group (wave 1: 3.22; wave 3: 3.08; p=0.377). This suggests that shorter working hours contribute to lowering perceived stress levels. Interestingly, this finding contrasts with the expectation that having the same workload to complete in less time might lead to an increased subjective perception of stress. As outlined in previous sections, while the pace of work does appear to increase, this does not correspond to higher stress levels. Instead, a marked reduction in stress is observed. This decrease can likely be attributed to changes in work practices introduced alongside the 4DW, such as minimizing distractions, restructuring meeting schedules, and increasing focus time. These adjustments not only seem to enhance productivity but also tend to alleviate stress by optimizing working methods.

"No, the expectation was [...] that it would be more stressful [...]. But now I don't have the impression that it is more stressful, [...] because of the measures with the headphones [...] that make it easier to concentrate."

Employee, Retail

WORK STRESS



Significance levels based on paired t-tests: † p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001.

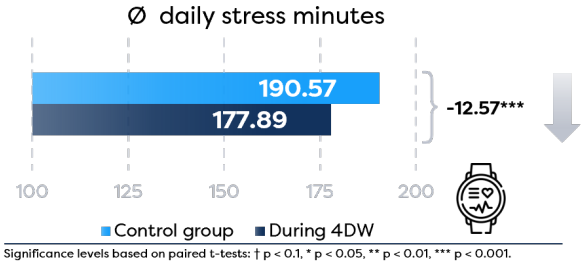
Objective stress levels were measured using data collected from the smartwatches, which recorded the number of minutes per day participants experienced high stress. This was determined through heart rate variability, a measure regulated by the autonomic nervous system. The smartwatch, using an algorithm developed by Firstbeat Analytics, analyzes the intervals between heartbeats. Lower variability in these intervals indicates higher stress levels, while greater variability reflects lower stress. Notably, the stress measurements exclude periods of physical activity, as the smartwatch can distinguish between routine daily activities

and physical exertion. Moreover, the reported stress minutes are specifically related to periods of heightened stress, which are particularly relevant to participant health.

> *"I have problems with migraines and headaches when I am too stressed out and that can be avoided quite well with the four-day week, of course."*
>
> Leader, Retail

Initially, daily stress minutes were compared between the 4DW group and the control group. Results show that participants in the 4DW group experienced significantly lower stress levels, averaging 177.89 stress minutes per day, compared to 190.57 stress minutes in the control group.

STRESS MINUTES



Significance levels based on paired t-tests: † p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001.

Subsequently, stress levels were analyzed across weekdays for both groups. No clear trend was observed on Mondays and Tuesdays. Visual inspection of the graph suggests elevated stress levels in the control group on Wednesdays and Thursdays; however, these differences are not statistically significant. On Fridays, the analysis revealed a significant reduction in stress minutes for participants in the 4DW group compared to the control group. This result aligns with the fact that many organizations adopting the 4DW designate Friday as a day off.

> *"I have significantly less stress because I can simply use Friday to relax more."*
>
> Employee, Food

The most pronounced differences occurred on Saturdays and Sundays, indicating that the 4DW may not only reduce stress on Fridays but also extend its effects into the weekend. Herein, both groups show elevated stress levels on Saturdays. This may be attributed to eventful activities. Overall, participants in the 4DW group experienced an average of 89 fewer high-stress minutes per week compared to the control group.

> *"Well, I personally feel a bit more stressed. But that has nothing to do with work per se, but with my private life or my hobbies. But in terms of work, I don't feel more stressed now, no. [...] I'm a soccer coach. Preparing for the next season."*
>
> Employee, Professional & Other Services

> *"Over the week as a whole, I no longer feel stressed at all, because Friday is what makes a big difference. [...] I don't feel more stressed than I did before the project, rather more relaxed. Because now I know that my four days are fuller and have fewer gaps and are sometimes more demanding, but the week is almost over and a long weekend is coming and I feel rather satisfied."*
>
> Employee, Health Care & Social Services

These results demonstrate that subjective perceptions of stress are corroborated by objective physiological data from the smartwatches. Data based on both participant self-reports and heart rate variability imply a significant reduction in stress due to the 4DW.

7.2 SPORT

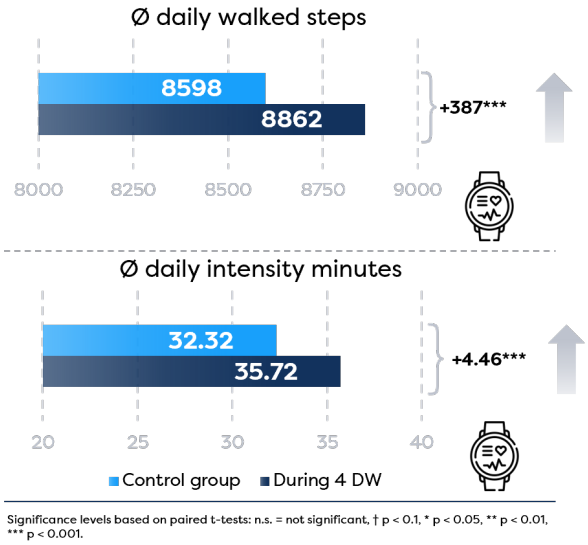
To assess sporting activities in the surveys, participants were asked how frequently they exercised throughout the week. The proportion of participants who did not engage in any exercise decreased, while those who were already active increased their exercise frequency during the 4DW. This increase is statistically significant when comparing the mean values (0.92 before the 4DW; 1.09 during the 4DW; $p<0.001$).

Additionally, activity levels were objectively measured by tracking participants' daily step counts. The smartwatch's accelerometer records repeated arm movements, with each full arm movement counted as two steps. The 4DW group took significantly more steps than the control group, averaging 8,862 steps per day, compared to 8,598 steps in the control group.

Daily step counts were further analyzed across weekdays for both groups. From Monday to Thursday, no significant differences in step counts were observed between groups. However, from Friday onward, significant differences emerged, with participants in the 4DW group walking an average of 2,596 more steps between Friday and Sunday compared to those in the control group. Similar to the findings on stress levels, the 4DW appears to increase physical activity toward the end of the workweek and extending into the weekend.

Similar patterns were observed for physical activities tracked by the smartwatch, measured in terms of intensity minutes. According to Garmin®, intensity minutes are calculated based on the current heart rate relative to the individual's average resting heart rate. To focus on actual physical activity rather than everyday movements, light intensity minutes are excluded, ensuring that only moderate and high-intensity minutes are considered. The comparison between the groups revealed a significant difference: participants in the 4DW group engaged in physical activity for an average of 35.72 minutes per day, while the control group averaged 32.32 minutes.

ACTIVITY



Significance levels based on paired t-tests: n.s. = not significant, † p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001.

Intensity minutes were also compared across weekdays. Notably, there were no significant differences between the groups from Monday to Wednesday. Although participants exhibited slightly higher levels of physical activity on Mondays and Tuesdays, these differences were not statistically significant. Additionally, nearly identical levels of physical activity were observed on Wednesdays and Saturdays. However, participants in the 4DW group displayed increased intensity minutes, particularly on Thursday and Sunday. Over the entire week, participants in the 4DW group were, on average, physically active for 24.45 minutes longer than those in the control group.

These results suggest that the introduction of the 4DW leads to an increase in daily activity levels, as evidenced by both step counts and physical exercise. The differences, which become more apparent from midweek onward, indicate that individuals with reduced working hours likely have more time and energy for physical activity. In contrast to the trends observed in stress levels, this higher activity level only partially extends into the weekend, with elevated intensity minutes particularly on Sundays. Overall, both the subjective evaluation of exercise frequency and the objective data indicating increased steps and intensity minutes suggest that the 4DW promotes a healthier lifestyle characterized by greater physical activity.

"The advantage for me is that I can spend my free time engaging in sports activities [...]. Thus, my work-life balance has significantly improved."

Employee, Manufacturing & Construction

"I had more time to ride my bike."

Leader, Professional & Other Services

"I was much more in nature. So [...] we went swimming and stuff. And I've already tried to do that a lot more than [...] before, to take the time for it, [...] for sports [...]. So I would say, just a bit more focus on leisure time all around than I had before. [...] But not in the sense that I've taken up a particular hobby or anything like that. I've just tried to make a bit more time for things like that."

Leader, Professional & Other Services

"I'm doing a lot more sport, which is something you should actually do from a certain age to simply stay healthy and keep fit for a long time. And that's doing me good, yes.

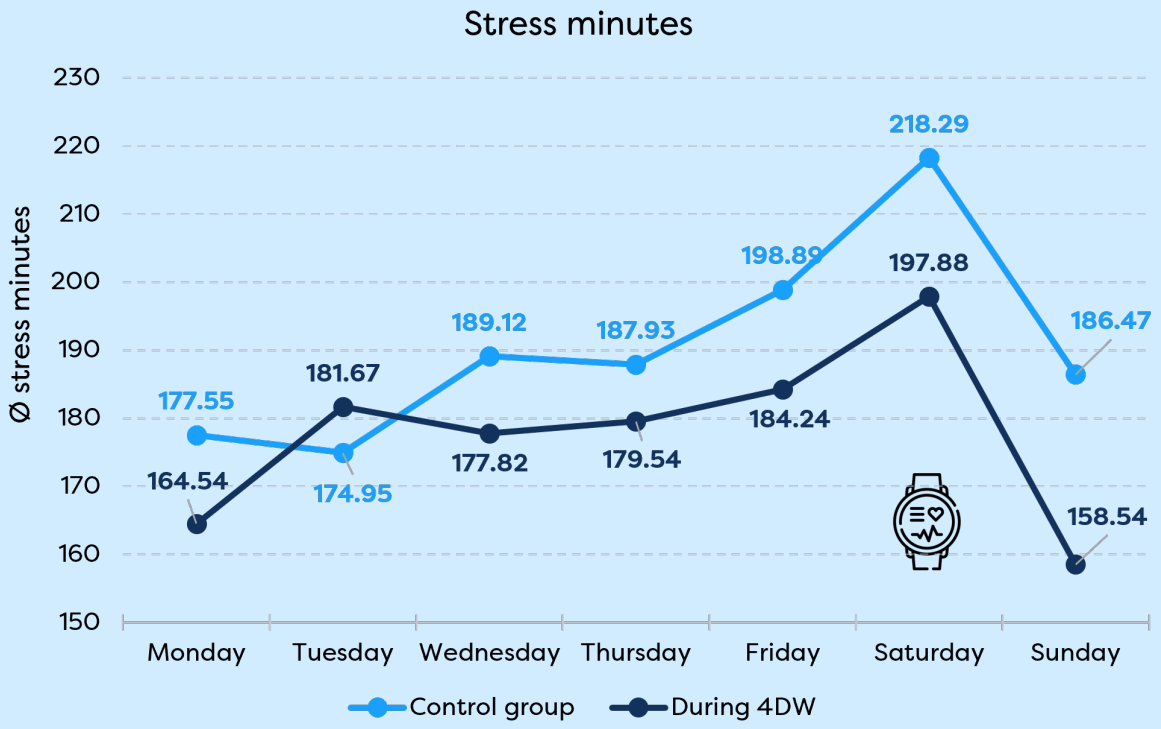
Employee, Professional & Other Services

7.3 SLEEP

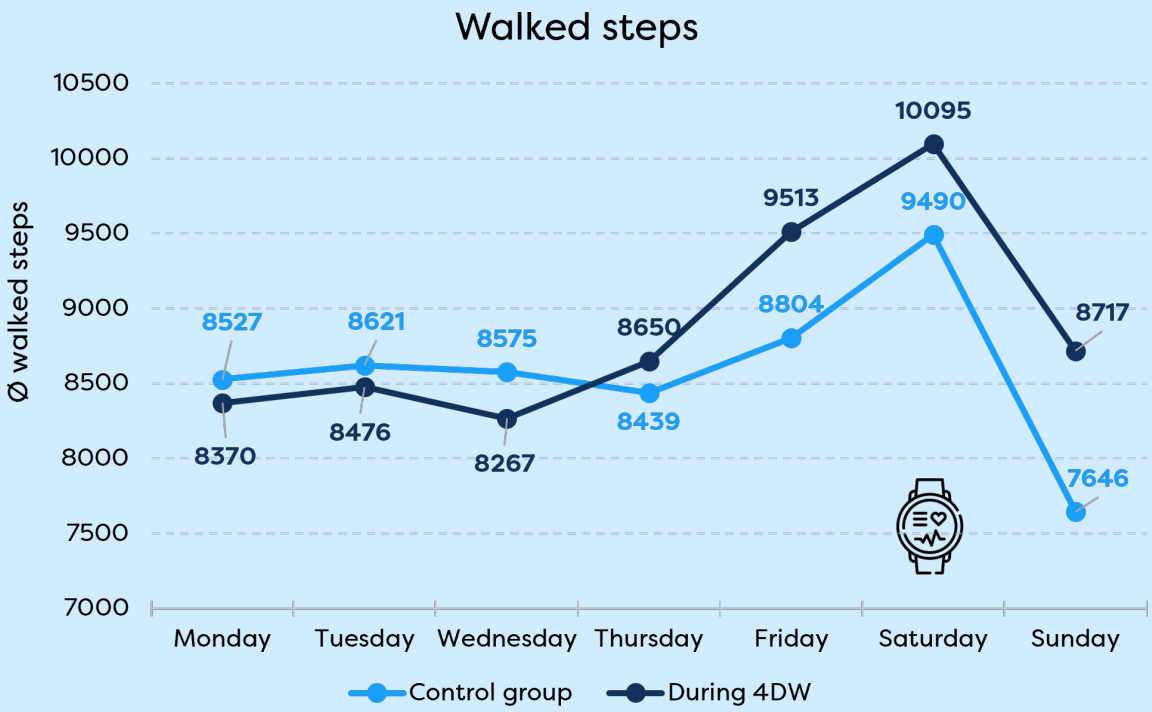
In the survey, participants were asked to estimate their daily sleep duration. Here, we did not find a significant difference before and during the 4DW.

However, when comparing the data from the smartwatches, significant differences between the 4DW and the control group were noted. Participants in the 4DW slept, on average, approximately 38 minutes longer per week than those in the control group. The differences in sleep duration were significant both in total weekly sleep time and in daily sleep duration during the nights from Thursday to Friday (+10 minutes), from Saturday to Sunday (+13 minutes), and from Sunday to Monday (+12 minutes). The longer sleep duration from Thursday to Friday may be attributed to the fact that many participants had Fridays off.

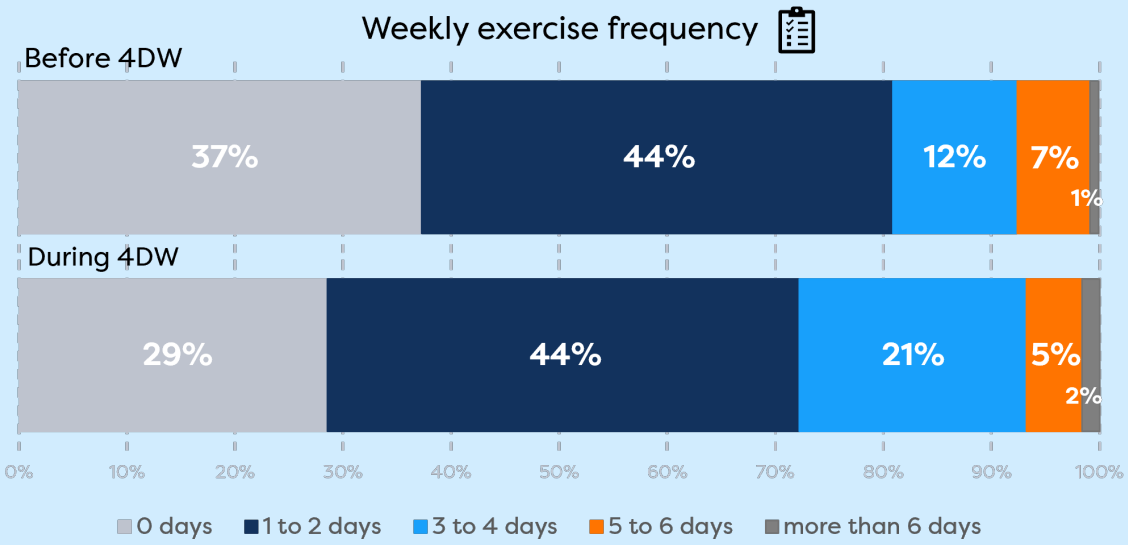
STRESS



STEPS



SPORT


Weekly exercise frequency
Before 4DW
37%
44%
12%
7%
1%
During 4DW
29%
44%
21%
5%
2%
0%
10%
20%
30%
40%
50%
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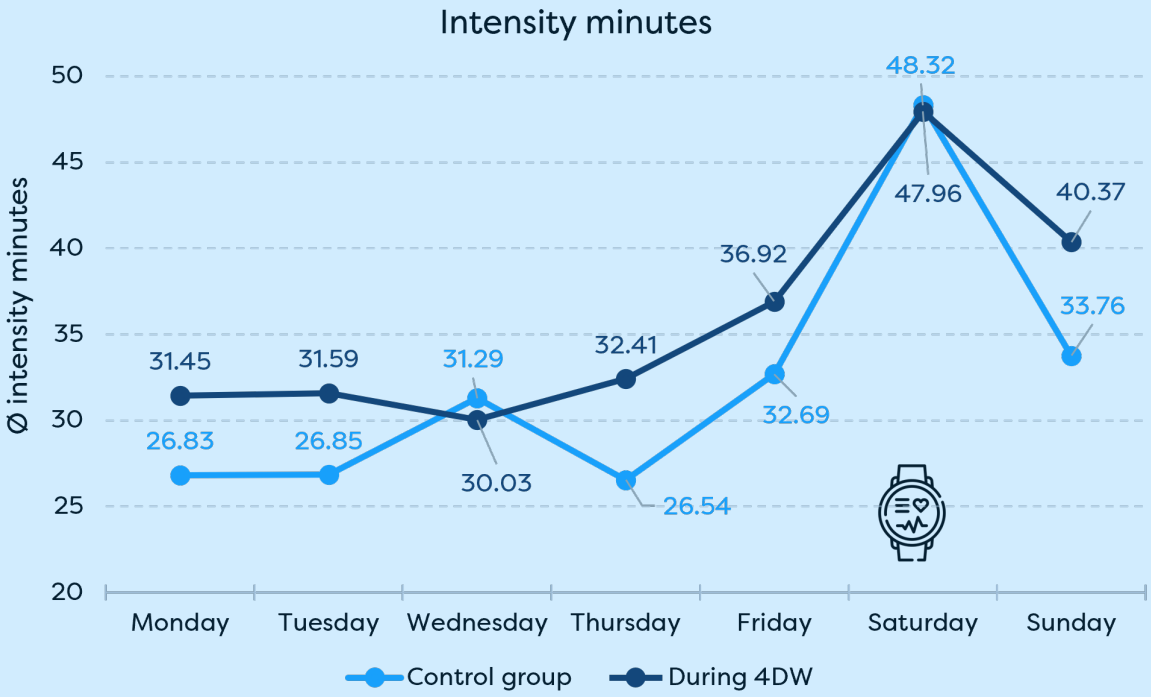
70%
80%
90%
100%
0 days
1 to 2 days
3 to 4 days
5 to 6 days
more than 6 days

SPORT


Intensity minutes
Ø intensity minutes
50
45
40
35
30
25
20
31.45
31.59
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32.41
36.92
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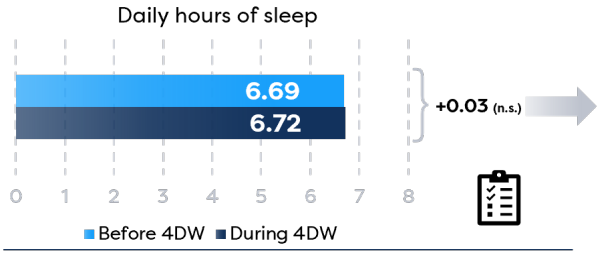
40.37
26.83
26.85
30.03
26.54
32.69
47.96
33.76
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
Control group
During 4DW

"For example, the change from Sunday to Monday was always tiring. I didn't sleep well, not because I don't actually like going to work, but the change was always mentally exhausting for me. And that's no longer the case [...]. And then getting up is easier."

Leader, Retail

The discrepancy between participants' self-reported sleep duration and the data captured by the smartwatch highlights the challenges of accurately self-assessing sleep. While participants did not report significant differences in their estimated sleep between the pre-pilot and end-pilot, the smartwatch arguably provides a more detailed and objective measurement of sleep behavior. The tracker's ability to capture specific data on total sleep duration, offers a more precise and comprehensive assessment than subjective estimations, which may be influenced by perception rather than actual sleep patterns.

SLEEP

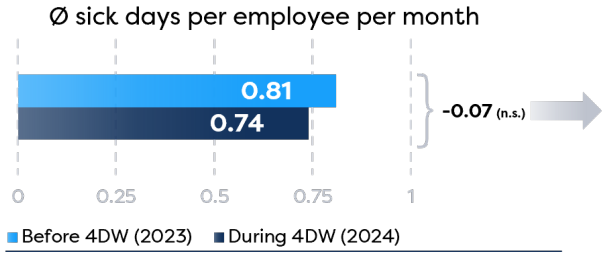


Significance levels based on paired t-tests: n.s. = not significant, † p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001.

7.4 SICK DAYS

Participants reported that they were less frequently absent from work due to health-related reasons. A comparison of mean values revealed that this change is statistically significant (1,52 before 4DW; 0.38 during 4DW; p<0.001). In particular, we can see that more employees did not report any sick days at all in the month prior to the survey. However, this change might primarily occur due to seasonal reasons, since we also observe a significant, albeit smaller decrease in the control group (wave 1: 1,49; wave 3: 0.43; p<0.001). Consequently, the comparison between the two groups in wave 3 reveals a slight tendency of less absence in the 4DW group, whereas this difference is not significant (4DW: 0.38; control: 0.43; p=0.752).

SICK DAYS



Significance levels based on paired t-tests: n.s. = not significant, † p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001.

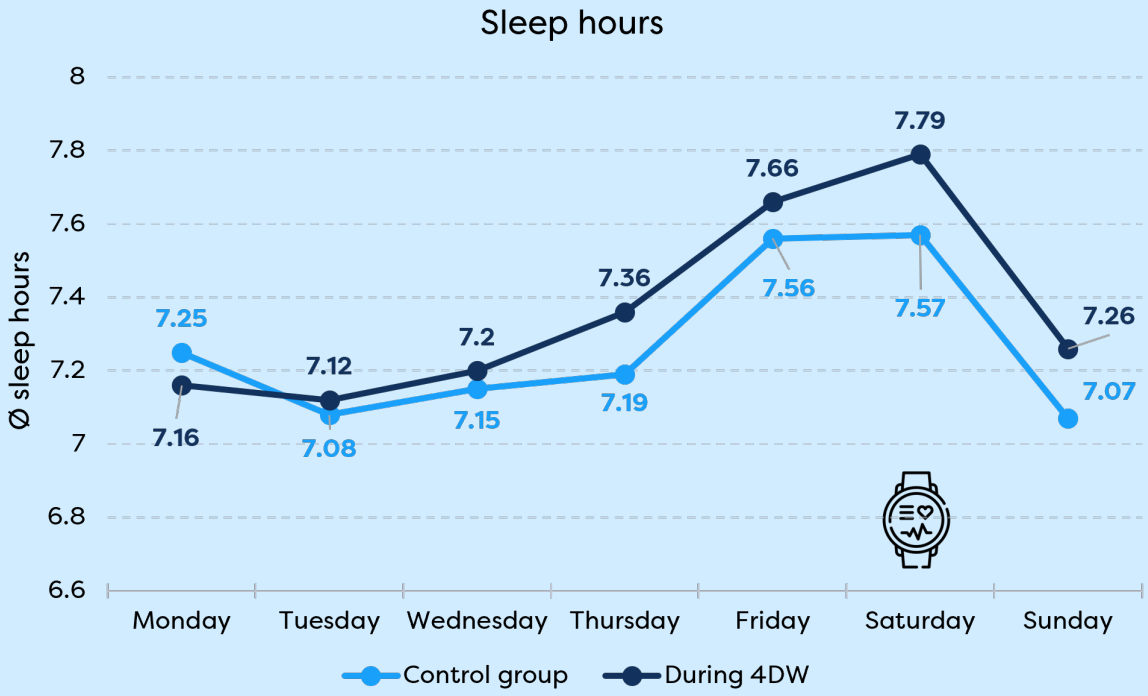
In the same vein, we did not observe any significant change in the number of sick days taken per employee compared to the previous year. Although the monthly average indicates a slight decrease in the mean, this finding should be interpreted with caution. The decrease is insignificant due to the limited number of organizations that reported this data, and those that did may employ different methods for calculating sick days.

Overall, we do not find definitive evidence for a decrease in sick days based on our survey and organizational data. However, both the qualitative evidence and the physiological data regarding stress and sport clearly suggest positive effects on employee health that might result in reduced absenteeism in the long term.

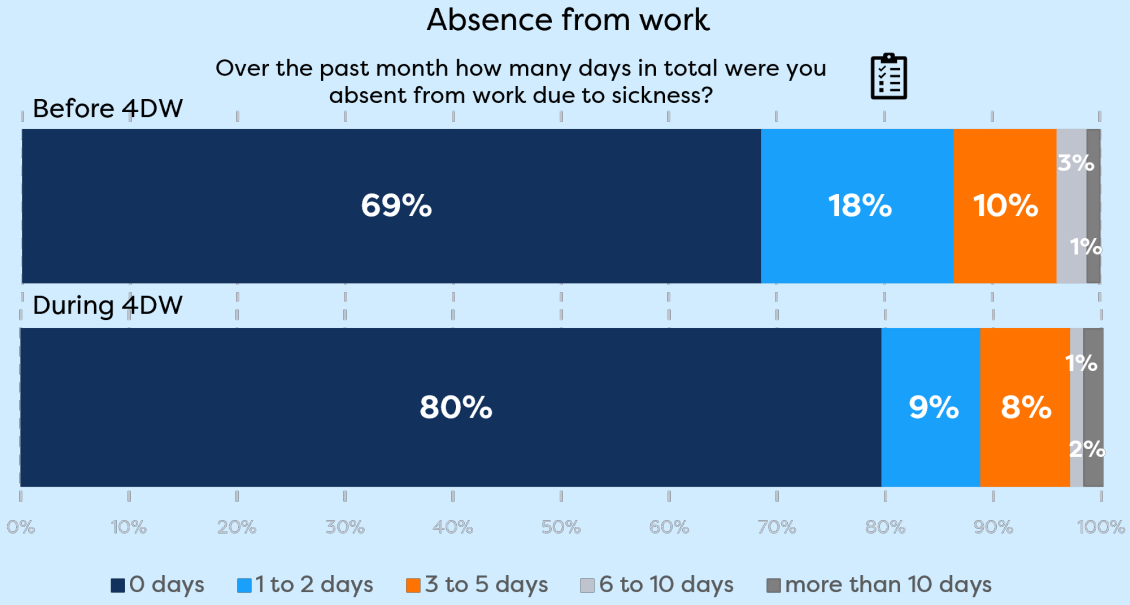
"I was sick last week, but I think that was the first sick day I've had for work this year, which is pretty cool for me, because I noticed that my immune system has suffered quite a bit [and] that it's doing me a lot of good to take time off, even on my day off [...] and you just have a day of recovery."

Top Management, Arts, Entertainment, & Media

SLEEP



SICK DAYS



8. TIME USE & SOCIAL IMPACT

We also inquired about how participants spent their free time. There is no right or wrong way to utilize free time, as this decision is inherently personal and depends on individual circumstances. However, the manner in which individuals choose to spend their time is an interesting outcome of the 4DW that could influence personal effects, such as stress and health (see section 7), as well as the broader social impact.

8.1 PERSONAL TIME

Participants spent significantly more time with self-care (e.g., relaxation), hobbies, and social contacts outside their own household (e.g., friends). The percentage of participants expressing a desire to spend more time on self-care decreased from 71% before the trial to 58% after the introduction of the 4DW. This finding aligns with our qualitative insights, where participants frequently reported engaging in activities described as "doing something good for myself" during their free time. While the specific forms of self-care varied, including activities such as napping or simply relaxing, they were consistently perceived as essential strategies for stress reduction and viewed as a "luxury".

"I know I can take care of things calmly on Friday and still have time for myself. It's like taking a deep breath, it's amazing. So really giving myself space to just come down and do something good for myself."

Employee, Manufacturing & Construction

"I think it's great to have Friday off. It's totally cool. Really. I love it. It's totally worth it to me not to have as much flexibility from Monday to Thursday. Because on Friday the weather is great here, everyone is at work and I drive to the canal at eleven o'clock and lie down in the sun. Totally awesome."

Leader, Professional & Other Services

Similarly, the percentage of participants expressing a desire to spend more time on hobbies decreased from 82% before the trial to 63% after the introduction of the 4DW. This decline is also reflected in our qualitative data, which indicates an increased engagement in hobbies. These hobbies encompass a wide range of activities, including reading, baking, sewing, and working on personal projects, such as van expansions. Notably, sports emerged as the most significant category of hobbies, aligning with our insights drawn from physiological data (see section 7.2). Respondents explicitly attributed various positive outcomes, such as reduced stress and improved health, to their increased participation in sports activities.

Finally, the percentage of participants expressing a desire to spend more time with social contacts, such as friends, decreased from 70% before the trial to 62% after the introduction of the 4DW. This decline is further supported by corresponding remarks in the qualitative data. Interestingly, the elaborations on hobbies and social contacts reveal a narrative of reclaiming aspects of life that have been diminished in the daily routine of a five-day workweek.

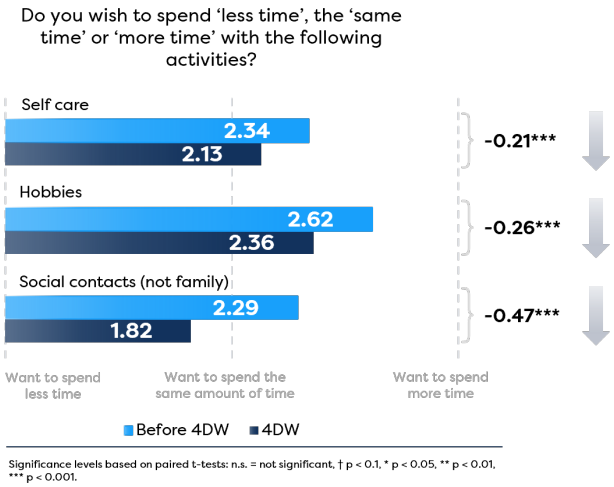
"I meet up with friends for a coffee, which I never do otherwise [...] there's so much space, yes, and a different sense of time."

Leader, Professional & Other Services

"I have more time during the week for my friends."

Employee, Professional & Other Services

PERSONAL TIME USE



8.2 SOCIAL & CARE WORK

Similarly, in the realm of social and care work, participants were able to adjust their time allocation to better align with their individual needs. This part of the study examined the time spent with family, care work for children and disabled family members, household tasks, and volunteer activities.

Participants significantly increased the time they spent with their families. Prior to the study, around 64% of respondents expressed a desire to spend more time with their families. After the introduction of the 4DW, this figure had dropped by 15 percentage points, with 50% of participants indicating they were now satisfied with the amount of family time. These results are further substantiated by the qualitative data from interviews, where participants frequently mentioned that they were now able to spend more time with their families.

"I had more [...] time with my already quite grown-up children. [...] it really makes a difference to suddenly be there somehow on Fridays too [...]. And to be able to do things too. [...] I also went swimming with my daughter once on a Friday afternoon."

Employee, Professional & Other Services

A similar trend was observed in the areas of childcare and caregiving for disabled family members. The percentage of participants who wanted to dedicate more time to childcare or care for disabled individuals decreased during the study. Focusing specifically on childcare, the proportion of participants who desired more time for this task saw a significant reduction from 61% to 39%, marking a one-third decline.

"Yes, definitely. I notice that I have more time, I'm a bit calmer and I'm enjoying these [...] days off [...]. And this conflict between family, children and career is no longer as great."

Employee, Professional & Other Services

When it came to caregiving for disabled family members, the figure halved from 50% to 25%. Due to the relatively small number of responses in this category, however, this reduction could only be interpreted as a trend, and no statistical significance could be determined.

"We're currently experiencing this in our family, where parents may sometimes need help [...] and just spending an extra hour or two with them. There's nothing in the world that can compare with that."

Employee, Food

"My hopes have been fulfilled in that I can now better organize my free time at the weekend and have a little more time for private activities. [I] take care of my mother a little. I can do that on Fridays now [...] or I would drive up there on Mondays, but then I was still able to spend the weekend with my husband."

Employee, Professional & Other Services

The picture becomes more nuanced when looking at household tasks. Before the introduction of the 4DW, 41% of participants reported wanting to spend more time on household work. After the introduction, this number had significantly decreased to just 14%. Concurrently, the proportion of participants expressing a desire to spend less time on household tasks rose from 12% to 32%. Further, 47% of participants before the study and 54% during the 4DW indicated that they were content with the time they were already spending on household chores and did not wish to change it.

"[...] that you don't put yourself under this kind of stress; that you have to get all the housework done in those two weekend days."

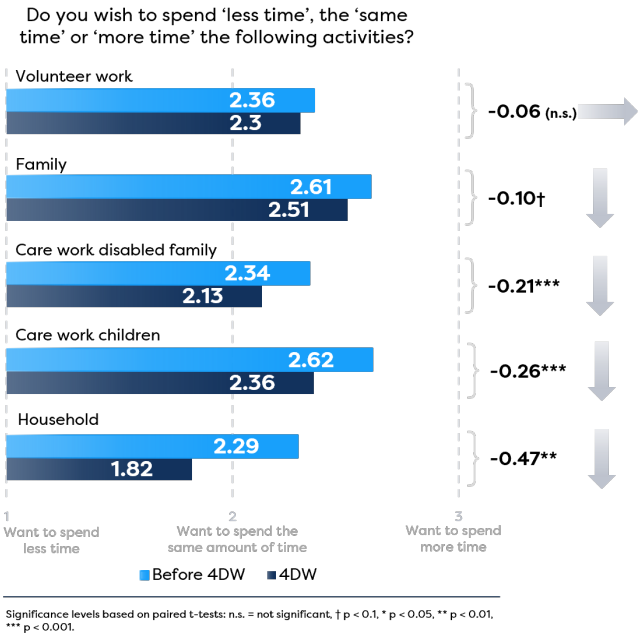
Leader, Retail

"That's why Friday is also great because sometimes I just have a cleaning party."

Leader, Professional & Other Services

In the case of volunteer work, only slight shifts were noted towards personal preferences. The percentage of participants who wanted to spend more time on volunteering decreased modestly from 41% to 36%. However, the results only indicate a tendency, with no statistically significant changes before and after introducing the 4DW.

SOCIAL & CARE WORK



Significance levels based on paired t-tests: n.s. = not significant, † p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001.

8.3 CARBON FOOTPRINT

Previous international studies have reported that employees and organizations participating in a 4DW significantly reduced their environmental impact following its implementation. The main proposed explanations for this finding include decreased commuting and reduced electricity consumption in the workplace due to the additional day off.

However, in our sample, we did not observe any decrease in commuting time. Furthermore, we have no reason to believe that activities undertaken on the additional day off are particularly environmentally friendly compared to a regular office day. While some activities reported during the interviews, such as sports, might be environmentally neutral, others, such as motorcycling or traveling, could even lead to increased individual CO2 emissions. Notably, our survey data indicates a substantial and significant increase in domestic trips, which some participants explicitly highlighted as a key advantage of the 4DW during our interviews.

"I actually spent a lot of time with my family [that] lives [in another town], which is a bit of a distance. And I've actually been able to see them very often [...], because two days for a weekend is usually not that worthwhile, unfortunately. And if you have three days, that was a good enough reason to say, okay, I'll go over to my family's now."

Leader, Retail

"Traveling in particular is always the ultra-intense focus for me."

Top Management, Health Care & Social Services

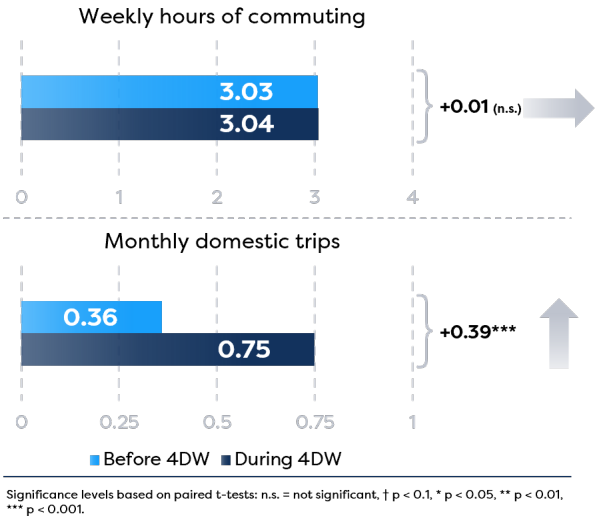
Overall, our findings reveal no evidence of a reduction in self-reported carbon footprints, as the minimal decrease in mean values is not statistically significant.

"[...] other factors I actually find a bit ridiculous, such as saving CO2. It's just greenwashing at its finest. We're not doing it to save CO2, that's for sure."

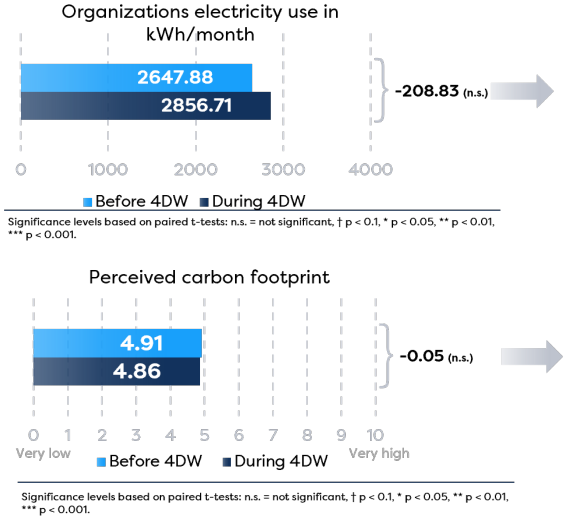
Employee, Professional & Other Services

At the organizational level, we measured electricity consumption and observed a slight increase; however, this change is not statistically significant. This analysis is based on only three observations, as many organizations either do not monitor their electricity usage or did not report it to us. Consequently, the interpretive value of these findings is limited due to the small sample size and the lack of comprehensive data across organizations.

CARBON FOOTPRINT



Significance levels based on paired t-tests: n.s. = not significant, † p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001.



Significance levels based on paired t-tests: n.s. = not significant, † p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001.

9. EVALUATION & OUTLOOK BY PARTICIPANTS

9.1. EVALUATION & OUTLOOK BY ORGANIZATIONS & MANAGEMENT

Of the 41 organizations, 39% have introduced a 4DW after their trial. Among these, the majority reported that they adopted the model exactly as proposed, while the other organizations have made slight adjustments to better suit their operational needs and workforce dynamics.

> *"It will definitely be introduced and will run forever with the caveat that if it doesn't work at all, we can also undo it. And so far there has been no signal from anywhere that we now want to undo it, even when things got difficult at times."*
>
> Top Management, Arts, Entertainment, & Media

Additionally, 34% of organizations have chosen to extend their pilot programs. Many of these organizations found that a six-month trial period was insufficient to reach a definitive conclusion about the viability of the 4DW. As a result, they deemed it necessary to prolong the pilot to gather more data, assess employee feedback, and evaluate the overall impact on business operations before making a final decision. Some organizations have opted to continue with their initial implementation of the 4DW, while others have made further adjustments to their models based on the insights gained during the trial period.

"It makes no sense to make a decision now, so let's extend it."

Initiator, Professional & Other Services

> *"I think you only really notice the right effects after two to three years. On the one hand, when things have settled in a little better. On the other hand, when we attract employees who deliver even better quality [...] and also in less time."*
>
> Top Management, Manufacturing & Construction

Moreover, 7% of organizations are currently undecided regarding the implementation of a 4DW. The organizations may still be in the pilot phase or in the progress of evaluating their options to determine the most effective course of action.

"No, [...] we need to have a final discussion."

Initiator, Health Care & Social Services

Conversely, 20% of organizations have opted not to further pursue a 4DW. Half of these indicated that they do not plan to keep it currently but may consider it in the future, while the other half decided against it. The organizations that chose not to continue the 4DW cited a range of challenges and concerns. Several organizations reported that the condensed schedule resulted in excessive workload during the four working days, increasing employee stress. One organization noted that the trial was always only intended for a limited period and that they must wait for collective bargaining decisions before making any long-term changes. Another organization observed that the model demotivated employees who struggled with self-organization, leading to limited availability for clients and a lack of flexibility for both the organization and its customers. Increased organizational demands and administrative complexity were also highlighted as substantial barriers. In terms of costs, one organization explained that they did not observe a large enough productivity boost to justify the higher hourly wages, making the model financially unsustainable. Similarly, several organizations expressed concerns about reduced flexibility in response to unpredictable events, such as equipment breakdowns or delayed supplier deliveries. This reduced adaptability was especially problematic in production areas, where they also noted a rise in sick days. Furthermore, some organizations found that the 4DW resulted in less staff availability, equivalent costs, and increased coordination needs. Finally, a few organizations mentioned that the shorter workweek led to unfinished tasks and longer project timelines due to the reduced total working hours each week.

Interestingly, when comparing organizations that attended one or more of the digital workshops and networking sessions organized by Intreprenör and 4 Day Week Global, a distinction emerges. Organizations that indicated they would continue with the 4DW attended an average of 4.7 workshops and 0.96 networking sessions. In contrast, organizations that mentioned they would discontinue the 4DW after the pilot only attended an average of 1.37 workshops and 0.25 networking sessions, either in preparation for or during the trial.

Overall, the majority of organizations have either directly implemented the 4DW or are still deliberating their options. This aligns with their positive assessment of the 4DW's overall effect on the organization, which key respondents on average answered with

7.33 on a scale from one (very negative) to ten (very positive). Both findings provide a promising indication of the potential success and acceptance of the trial as a whole.

9.2 EVALUATION & OUTLOOK BY EMPLOYEES

"I don't want to do without it anymore. We're working [temporary] a five-day week again, but I'd like to go back to the four-day week."

Employee, Manufacturing & Construction

Overall, the evaluation of participating employees was highly positive, with 83% expressing a desire to continue working under a 4DW schedule. When asked about the monetary value of the 4DW, 60% indicated they would require at least a 20% pay raise to consider accepting an alternative job that follows a traditional five-day week.

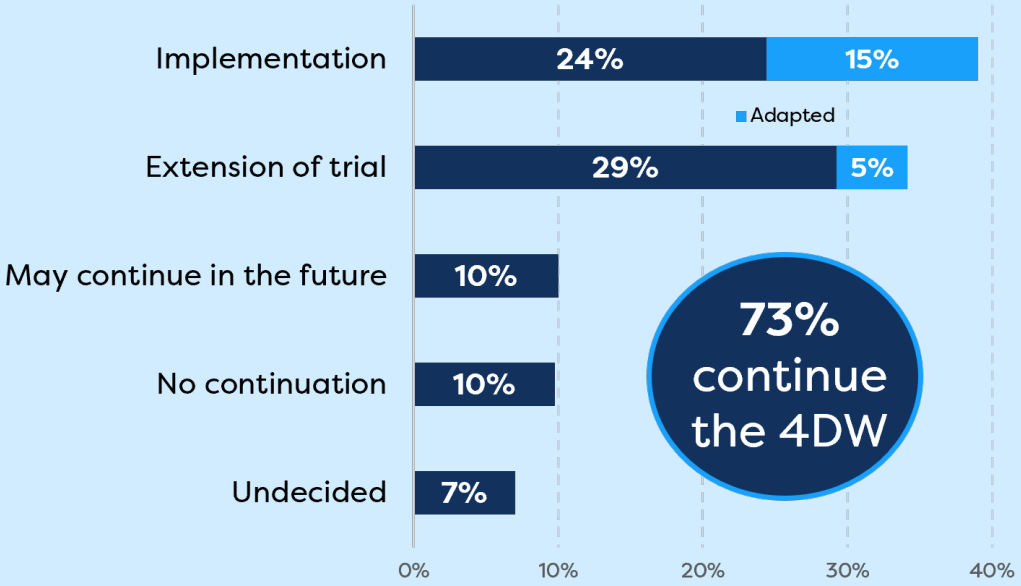
> *"Definitely continue. We have to establish it. We really must establish it. Because I think it's good on so many levels."*
>
> Employee, IT & Telecoms

This finding suggests that employees perceive the benefits of a 4DW—such as improved work-life balance, reduced stress, and increased personal time—as significant enough to outweigh the financial implications of potentially lower pay. Since the average reduction in work hours within our sample was significantly less than 20%, this finding implies that the work time reduction associated with a 4DW is considered more attractive than a corresponding pay increase in a five-day week.

In essence, employees value the extra time afforded by the 4DW highly, indicating that they might prioritize non-monetary benefits related to their well-being over financial compensation. This could reflect a broader trend where workers increasingly seek meaningful work experiences and improved quality of life rather than simply higher salaries. Thus, the findings underscore the potential appeal of the 4DW model as a strategy for organizations aiming to attract and retain talent in a competitive job market.

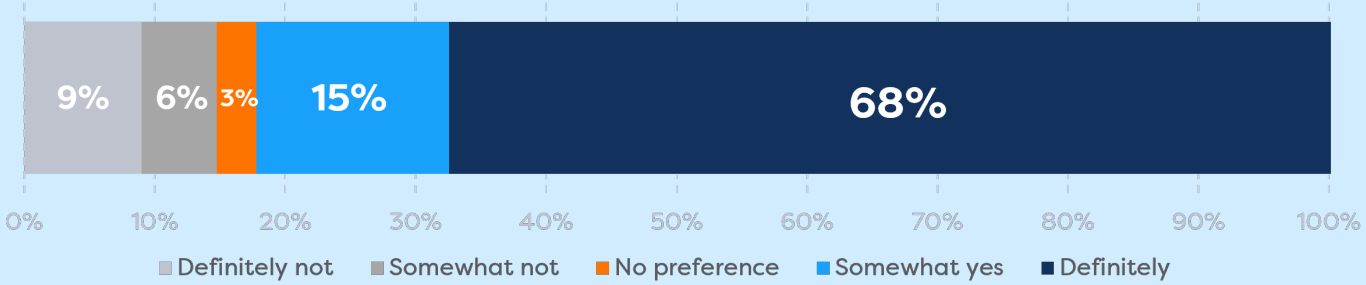
OUTLOOK

4DW implementation by organizations



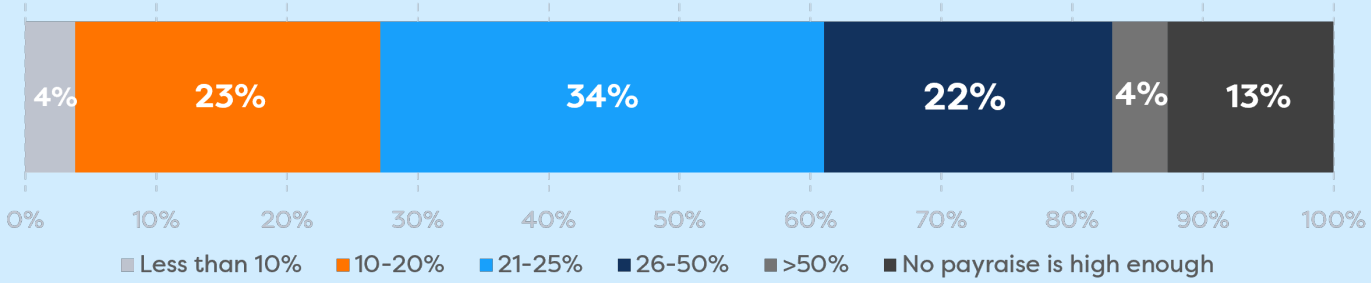
Wish to continue

If given the option, would you like to continue on a 4 day week?



Payraise 5 DW

How much of a pay raise would you request for a 5-Day Week at a new job?



10. CONCLUSION

10.1 LIMITATIONS OF THE STUDY

This study provides several new and valuable insights into the implementation and effects of the 4DW at both the employee and organizational levels. However, certain factors should be considered when interpreting the results.

First, the study includes a relatively small number of organizations. Therefore, the findings, particularly those related to revenue and profit development, should be interpreted with caution. The data does not allow for definitive conclusions about the impact of the 4DW on organizational performance, as external factors—such as market conditions, competitive pressures, and the broader economic environment—play a significant role. Another key consideration is the time frame of data collection and analysis. For the majority of participating organizations (78%), the trial began between January and March. At this stage, seasonal effects, such as the increased workload often experienced in the fourth quarter, may not be fully accounted for in the analysis.
Additionally, the effects of the 4DW on organizations and employees vary according to internal characteristics. While the heterogeneous sample, comprising organizations of various sizes and from different industries, is a strength of the study, it complicates the task of drawing specific conclusions about which organizational size or industry is suited for the 4DW. The same holds true at the individual level. Interviews revealed that perceptions of the 4DW differ widely based on personality, leading to varying impacts on individual well-being. Thus, a continued objective of the study is to examine these aspects more closely in the next phase.

Finally, the relatively short duration of the study limits the ability to draw conclusions about long-term effects. As the 4DW represents a fundamental change in working practices, long-term studies are necessary to understand how this shift impacts organizational culture, individual behaviors, and performance over several years. Therefore the future goal is to continue supporting organizations that choose to maintain the 4DW model, in order to gather data on long-term effects for both organizations and employees. This will help determine whether the initial benefits in well-being and productivity can be sustained or whether new challenges arise. Hence, our aim is to address these limitations by continuing to collect data from organizations maintaining the 4DW, thereby enhancing the robustness and relevance of the results in the future.

10.2 CONCLUDING REMARKS & ASSESSING THE WAY FORWARD FOR THE 4DW IN GERMANY

The findings from the six-month German 4DW trial offer valuable insights into the potential of this model to reshape work in a manner that benefits both employees and organizations. Like the international studies in the UK, New Zealand, and Iceland, the German pilot demonstrated that reducing working hours can lead to significant improvements in employee well-being without compromising productivity. The trial revealed positive effects on mental health, work-life balance, and overall life satisfaction, driven by the additional personal time gained from a shorter workweek. Notably, 73% of organizations indicated they would continue or expand the 4DW after the trial, suggesting that the model holds potential for the majority of organizations. The diversity in the degree of work time reduction and the types of models implemented by German organizations highlights that a one-size-fits-all approach is not feasible. Instead, organizations need to adapt their work time reduction strategies to fit the specific needs of their industry or organizational context. This flexibility allows organizations to tailor the 4DW model, ensuring that it aligns with their operational demands while still delivering benefits to both employees and the business.

From the employee perspective, the trial reinforced findings from other international studies that shorter workweeks lead to improved physical health and mental well-being. The improvements captured by physiological data collected via smartwatches are particularly notable. Participants with a 4DW show higher levels of physical activity, lower stress levels, and sleep longer than their counterparts in the control group. These physiological measures align with self-reported measures and qualitative data indicating that participants' overall well-being and quality of life improved substantially. Thanks to our comprehensive qualitative data collection in combination with objective and subjective measures, we can connect these improvements to recreational and social activities made possible by the 4DW. In particular, participants had more time for their family, their friends, physical activity, and self-care, which directly and substantially improved their quality of life.

We also observed an impact of the 4DW on employer attractiveness. A key motivation for many organizations was to improve their attractiveness to skilled workers, particularly in light of the labor shortages facing Germany. Indeed, employee satisfaction increased and organizations reported improvements in recruitment and retention rates, echoing results from other international 4DW

trials. However, we find only little evidence for increased job satisfaction and decreased turnover intention reported by employees. Likewise, we do not find solid evidence for improved turnover rates as measured by objective metrics.

Moreover, we also examined potential changes in productivity. On the individual level, we find a significant increase in self-reported productivity. This notion is further supported by reports that employees managed the same amount of work in less time and detailed qualitative evidence explaining how they achieved this increase. While self-reported productivity measures have to be interpreted with caution, these findings are also reinforced based on assessments of employee productivity by leaders and top management. Although organizational-level data did not show a significant change in revenue or profit during the trial, the fact that these metrics remained stable while work hours were significantly reduced suggests that at least some productivity gains have been realized. However, this should be interpreted with caution due to small sample sizes and substantial fluctuations. Hence, these findings highlight the need for more research, particularly concerning the long-term impacts of 4DW.

The German trial also highlighted several challenges. In particular, two large organizations dropped out during the trial citing (external) economic reasons. Likewise, with 20%, a relatively large portion of organizations decided to change back to a five-day schedule – at least for the time being. Although this number is still clearly trumped by the vast majority of organizations that continue the 4DW trial, it is considerably larger than in previous international studies, where almost all participating organizations kept the 4DW beyond the trial. Overall, the share of organizations and top managers meeting the concept of a 4DW with a certain degree of skepticism or treating the trial as an initial test of feasibility rather than a first step towards the introduction of a 4DW seems relatively high in the German sample. Nevertheless, the top management of organizations in our sample reported a favorable assessment of the trial and positive overall effects of the 4DW for their organization.

In conclusion, while the German pilot adds to the growing body of evidence supporting the 4DW, the initial insights are promising. However, further research and trials—particularly in sectors where implementation may be more challenging, and in larger organizations that were underrepresented in this and other trials—are necessary. It is important to note that these are the first analyses and results of the 4DW pilot in Germany, and ongoing research will continue to observe potential long-term effects. In the coming months, the collected data will undergo further in-depth analysis. The results from the cortisol analyses, still pending from the end-term data collection, will be integrated alongside deeper insights from the extensive qualitative interviews and physiological health data gathered through the smartwatches. Additionally, we plan to explore the differences between various 4DW models and their viability across different industries within organizations that have already implemented the 4DW in Germany. These ongoing research efforts will help refine the 4DW model, offering more tailored solutions and insights into its potential scalability across different organizational contexts.

Acknowledgements

From the University of Münster, we are deeply grateful to all the organizations and individuals who contributed to the project, willingly sharing their knowledge, expertise, and experiences, all while implementing a major change. Without the support of the organizations, the research project would not have been possible. We would also like to thank Dr. Manfred Fobker and his team at the University Hospital Münster for conducting the hair sample analyses and hence making it possible to analyze more objective health data. We would also like to extend our sincere thanks to Talea Stolte, a student research assistant at the Chair for Transformation of Work, who contributed greatly to several steps of the research process and was of immense help throughout. Furthermore, we would like to express our gratitude to the 14 master students who have greatly contributed to the qualitative data collection process for this project. Your dedication and support during the project have been invaluable. Hence, kudos to: Berit Sieckmann, Bettina Beffar, Gun Hi Lee, Jan Ole Krieg, Jan Wagemann, Katharina Wolf, Luisa Püllen, Natalie Kosobudzki, Niklas Koenen, Niklas Kotte, Paulina Berthold, Till Coenen, Timon Honsel, and Veronika Boppre.

From Intraprenör, we would like to thank the campaign project team consisting of Nathalie Starke, Joseph Coenen, Stefanie Ballof and Franziska Reinecke, supporting us around messaging, design and communications.

A Message from 4 Day Week Global

The findings of this report mark a significant milestone not only for the four-day workweek movement but for the future of work across Europe. The success of this pilot in Germany is particularly notable because of the country's reputation as an economic powerhouse, known for its efficiency, productivity, and industrial leadership. Germany has always set a high bar for innovation and quality, and the fact that the four-day workweek has proven successful here is a powerful signal to the rest of Europe—and the world—that change is possible.

By demonstrating that reduced working hours can enhance productivity and well-being without compromising economic performance, this German pilot serves as a gateway to Europe, paving the way for other nations to follow suit. With eight European partners already on their own journeys, from France to Norway and beyond, the momentum is building, and it's clear that this is the beginning of a new era in how we approach work.

I want to extend our deepest gratitude to Jan, Carsten, and the research team at the University of Münster, comprising Professor Dr. Julia Backmann, Dr. Felix Hoch, Johannes Hüby, Marika Platz, and Dr. Matthias Sinnemann. We value your commitment and leadership in making this pilot a success. You have laid the groundwork for a movement that will transform not just Germany but all of Europe. At 4 Day Week Global, we are excited to continue supporting this journey and watching as more countries take up the call to create a healthier, more sustainable way of working.

All the best,

Dale Whelehan, CEO 4 Day Week Global

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