

Article



Work Sustainability: Insights from Employees and Managers on Weekly Working Hours

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Abstract: This study aims to review the theoretical and empirical effects of working time reduction (WTR) and compare them with workers' expectations and experiences. A survey was conducted with 61 individuals working 40 h per week, 36 workers who had undergone WTR, and 47 managers. The results showed that all participants were in favor of WTR; managers preferred reducing to a 4-day workweek, while workers opted for a flexible schedule. The expectations and experiences of WTR impacts on the society, economy, and environment were very positive, particularly in stress reduction, household responsibilities, and work–family balance. Experienced workers and managers recognized the positive economic effects of WTR on productivity and competitiveness, but other workers did not expect them. Contrary to the expectations of the other samples, experienced participants reported an increase in their consumption patterns, which needs to be considered, as the impact of WTR on the environment is mainly dependent on the workers' activities. Understanding the effects of WTR and the support of workers and managers is crucial in decision-making processes.

Keywords: working time reduction; sustainability; expectations; experiences



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1. Reducing Weekly Working Hours: Expectations and Reality

Sustainability has emerged as a pivotal concern, evident in the United Nations' 2030 Agenda for Sustainable Development adopted by all Member States in 2015. Organizations, as key entities, play a critical role in advancing sustainability goals, including promoting decent work, well-being, economic growth, and environmental sustainability [1,2]. The significance of this concern is underscored by the Agenda's inclusion of Goal 8, which specifically aims to promote decent work for all. More specifically, Target 8.3 sets out the objective to "promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services" [3]. During the 2022 election campaign, the victorious Socialist Party included a proposal in its electoral program to "promote a broad national debate and social concertation on new ways of managing and balancing working hours, including consideration of experiments such as the four-day workweek in different sectors" [4]. In line with the ongoing public dialogue involving the state, political parties, labor associations, general public, and pilot studies currently underway, the present study investigates the potential impact of reducing weekly working hours on perceptions and practices related to sustainability.

Understanding the role of perceptions, such as attitudes and beliefs, is essential for examining how individuals view the balance between work and leisure [5]. Accordingly, we compare the expectations of workers and organizational representatives with the experiences of employees of an organization that implemented a reduced workweek for nine months. Through the three dimensions of sustainability, we assess the potential effects of reduced weekly working hours on economic, social, and environmental outcomes.

Working time, defined as the period a worker is at the employer's disposal, varies based on occupations, life stages, and gender [6]. Working time reduction (WTR) is not a new concept; historical examples include the shift from a six-day to a five-day workweek in the early 20th century [7,8]. Proponents of a shorter workweek advocate it as a response to various crises, highlighting potential environmental, social, and economic benefits [9–11].

This study seeks to contribute to the ongoing discussion of workweek reduction, a topic often met with skepticism in Portugal, where it receives limited enthusiasm from unions and, at times, strong opposition from employers [7]. To analyze the potential impacts of this change, we apply all three sustainability dimensions, providing a comprehensive perspective that aligns with contemporary sustainability goals.

1.1. Working Time Reduction and Economic Outcomes

Empirical evidence suggests that reduced working hours can enhance productivity and employment and, consequently, lead to an increase in real GDP [8]. Shorter workweeks boost productivity through the physiological benefits of less physical and mental fatigue, and organizational redesign [12]. Concerns about potential skill dilution and decreased productivity have been challenged by findings indicating that reduced hours can decrease labor costs and enhance workforce quality, as supported by evidence from the U.S. and Europe from 1995 to 2006 [13,14]. Countries with shorter working hours—such as Germany, Belgium, France, or the Netherlands—exhibit higher productivity rates, underscoring a positive correlation between reduced annual work hours and productivity. Figure 1 further illustrates this trend, with European nations leading in productivity as work hours decrease.

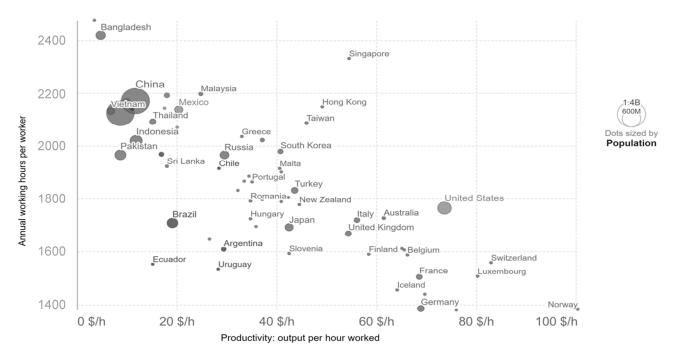


Figure 1. Annual working hours vs. labor productivity, 2019. Data source: Feenstra et al. (2015), Penn World Table (2021), with major processing by Our World in Data [15].

In terms of employment, research in Spain projected that reducing the workweek from 40 to 35 h would generate over half a million jobs, reduce unemployment by 2.6 percentage points, and boost the GDP by 1.55% due to increased domestic demand, consumption, and investment. Working time reduction can specifically help mitigate female unemployment, providing opportunities for a more equitable distribution of household and caregiving responsibilities [8].

1.2. Working Time Reduction and Social Outcomes

Research on the social impact of reduced working hours has primarily focused on health, work–life balance, and well-being. Evidence indicates that reducing working hours can improve both mental and physical health, leading to benefits such as better sleep quality, reduced stress, lower fatigue, and other positive health outcomes [16,17]. However, the health benefits of WTR may depend on how individuals use the additional free time. For instance, Voglino et al. [18] suggest that WTR is most effective when it fosters healthy habits, thereby enhancing overall quality of life and health. Similarly, Buhl and Acosta [19] found that well-being improvements associated with WTR are strongly influenced by how this discretionary time is used. Furthermore, reducing working hours can lower work–family conflict, improve work–life balance [20], and increase well-being, including greater leisure and job satisfaction [21,22].

1.3. Working Time Reduction and Environmental Outcomes

Research indicates that reducing working hours can have positive environmental effects by lowering carbon emissions, energy use, and ecological footprints, particularly in OECD countries and the U.S. [23–25]. Longer working hours tend to increase environmental pressures probably due to more carbon-intensive lifestyles that arise from limited free time, with WTR potentially mitigating these impacts [23,26]. However, the environmental impact of additional free time depends on how it is used, as the activities that replace work hours can have ambiguous environmental implications [27]. Environmentally lowimpact activities, such as community involvement or home cooking, could benefit the environment, while high-impact activities like frequent travel could have the opposite effect [28,29]. Studies in Sweden, the Netherlands and the UK show a correlation between shorter working hours, reduced income, and smaller carbon footprints. However, these effects are mixed when examining direct changes in consumption. Shorter hours sometimes lead to higher environmental impacts due to altered spending patterns; nonetheless, this result should be interpreted cautiously, as the reported effects are small and not always statistically significant [25,28,30]. Overall, the academic consensus suggests that WTR could effectively reduce environmental impact while improving working conditions and employment, with the potential for a net positive effect on sustainability [27,31,32].

1.4. Working Time Reduction as a Management Practice

Organizations today face growing pressure to implement innovative practices that not only enhance productivity but also sustain their competitive advantages [33]. Moreover, they are compelled by stakeholders to meet corporate social responsibility (CSR) targets and adopt environmentally sustainable practices [34]. As organizations strive to align their business objectives with societal expectations, there has been a notable trend towards integrating human resource management (HRM) practices with CSR initiatives, leading to the emergence of Socially Responsible Human Resource Management (SR-HRM) [35]. SR-HRM refers to HRM policies and practices that align with employee-oriented CSR objectives, with a particular emphasis on addressing employees' needs, interests, and social expectations through human resources strategies and initiatives [35]. Socially responsible firms that prioritize such practices often achieve greater long-term benefits, including improved organizational performance, higher employee satisfaction, and increased competitiveness [36,37].

The reduction of weekly working hours will likely depend on a complex interactive process of bottom–up (e.g., workers and civil society) and top–down (e.g., policy makers) negotiations, shaped by public perceptions and experiences. To explore this dynamic, we analyzed the perspectives of workers and organizational representatives regarding reduced working hours. This study aims to contribute to the field by identifying the barriers and facilitators influencing this process.

2. Methods

2.1. Participants

A non-probabilistic convenience sample of 144 participants voluntarily participated in this study. Table 1 shows the sociodemographic data in detail. Data were collected between May and July 2022, and the results were analyzed under three specific conditions. Sample 1 consisted of workers from organizations mostly in the private sector, working 40 h per week. We recruited a convenience sample of the Portuguese adult population via social media, the research team's network, and snowball sampling using undergraduate students who received course credit for recruiting participants. Sample 1 was stratified from an initial selection of participants (N = 411), to match the distribution of age, gender, and educational qualifications in order to facilitate a comparison with the sample of workers surveyed about their experience of reducing weekly working hours. Sample 2 consisted of employees from a private company (fintech) that adopted a 4-day workweek (i.e., reducing hours to 32 h/week) model in January 2022. Sample 3 consisted of HR managers primarily from private organizations practicing work schedules of 40 h per week. Emails were sent to a list of national companies, including companies of different sizes and areas, and managers were invited to participate.

	Age		Gender Education		Working h/Week	Sector	Work Functions
	М	SD					
Sample 1 (n = 61) Employee expectations	25.9	7.35	45.9% females	50.8% High school degree 32.8% College degree 14.8% Master's degree 1.6% Ph.D. degree	40 h/week = 41% 35/week = 35% Other = 32.8%	Public = 23% Private = 77%	TF = 47.5% M&A = 27.9% Other = 24.6%
Sample 2 (<i>n</i> = 36) Employee experiences	25.6	9.81	58.8% females	30.6% High school degree 52.8% College degree 16.7% Master's degree	32 h/week = 100%	Private = 100%	TF = 68.8% M&A = 25% Other = 6.3%
Sample 3 (n = 47) Manager expectations	45.2	8.93	68.1% females	14.9% High school degree 57.4% College degree 27.7% Master's degree	40 h/week = 65.2% 35/week = 4.3% Other = 30.5%	Public = 4.3% Private = 95.7%	M&A = 100%

Table 1. Participant characteristics.

Note: TF = technical functions; M&A = management and administration.

2.2. Procedure and Measures

The study utilized an online questionnaire, which was distributed to participants who provided informed consent before completing the survey. The questionnaire was largely identical across the three sample groups, with the exception that it focused on experiences for the sample that had undergone a reduced workweek and on expectations for the other samples.

The questionnaire, developed by the authors, aimed to assess the participants' expectations and experiences on topics identified in the literature review. Items were designed to capture specific aspects of these topics, as identified in the relevant literature. Each aspect was treated as unidimensional, with individual items measuring specific facets. Consequently, internal consistency was not assessed. Regarding validity, the items demonstrated evident facial validity and were grounded in observable behaviors or phenomena, with each item corresponding to a measurable variable.

The questionnaire covered several areas. First, the participants indicated their preferences for their working mode, including their preferred working hours model (40 h per week, 35 h per week, or 32 h per week) and their preferred workweek structure (five working days, four working days, or a flexible model where the workers decide how to organize their week). These preferences were rated on a scale from 1 (low preference) to 7 (high preference).

Second, the participants provided their opinions on the general impacts of reducing weekly working hours. This was measured using semantic differential scales ranging from -3 (very negative impact) to +3 (very positive impact). Single-item measures captured the perceived impacts of reducing working hours on business competitiveness, productivity, unemployment rates, promotion of women's employment, workers' bargaining power, stress levels, the distribution of household tasks, and work–family balance.

Third, the participants evaluated the potential economic, social, and environmental implications of reducing weekly working hours. These aspects were also assessed using semantic differential scales ranging from -3 to +3.

Fourth, the participants were asked about their expectations regarding how they would use the additional time resulting from a reduced workweek. They rated the likelihood of engaging in specific activities on a Likert scale from 1 ("very unlikely") to 7 ("very likely"). These activities included exercising, spending more time with family and friends, increasing consumption, pursuing hobbies, participating in social interest activities, and engaging in educational or training activities.

Finally, the participants rated the overall perceived impacts of reducing weekly working hours on a scale ranging from -3 (very negative impact) to +3 (very positive impact). The full questionnaire is available in the Supplementary Materials.

3. Results

3.1. Preferences Towards the Working Mode

A set of between-subject and within-subject analyses of variance (one-way ANOVAs and repeated-measures ANOVAs, respectively) was performed, comparing the preferences towards the working mode between the different study samples. The results are presented in Table 2. Overall, there was a preference for the 32 h/week and the 35 h/week models over the current model of 40 h/week, which was evaluated in a negative manner by the three samples. Regarding the 35 h/week, the results show that there was a significant effect of the group sample characteristics. Post hoc tests show that managers tend to prefer this option. For the 32 h/week option, the results show that there was not a significant effect of the group sample characteristics on the level of preference. Additionally, the preferences within each sample were analyzed. Three within-subject analyses, i.e., repeated-measures ANOVAs, were performed (40 h/week vs. 35 h/week vs. 32 h/week), one for each sample. The results show that there are significant effects of the different working hour configurations for all samples. The employees expected that working 40 h/week is the least preferable option. The same trend is found among the employees experienced in reducing the work hours: 40 h/week was the least preferable option. Between 35 h/week and 32 h/week, there was no difference in the mean preferences for both samples of employees. For managers, the option of 35 working hours per week was the one expected.

	40 h/Week		35 h/Week		32 h/Week			
	М	SD	Μ	SD	Μ	SD	 Within Subjects 	
Sample 1 ($n = 61$) Employee expectations	2.75 ^{a(a)}	1.57	4.72 ^{a,b(b)}	1.86	5.02 ^{a(b)}	1.96	F(1.78, 105.19) = 37.34, p < 0.001	
Sample 2 (<i>n</i> = 36) Employee experiences	2.77 ^{a(a)}	1.68	4.00 ^{a(b)}	1.80	4.69 ^{a(b)}	1.88	F(1.61, 54.83) = 15.53, p < 0.001	
Sample 3 ($n = 47$) Manager expectations	3.14 ^{a(a)}	2.18	5.05 ^{b(b,c)}	1.95	4.60 ^{a(a,c)}	2.31	F(1.56, 63.82) = 8.50, p < 0.001	
Between subjects	F(2, 138) = 1.53, p = 0.220		F(2, 138) = 3.88, p = 0.023		F(2, 138) = 0.61, p = 0.547			

Table 2. Working hours per week preferences.

Note: 1 = low preference; 7 = high preference. Means with different superscript letters within the same column are significantly different from each other. Means with different superscript letters in brackets within the same row are significantly different from each other.

Regarding the model of working hours per week (Table 3), the 5-day workweek was the least preferred model overall. There were no significant differences between samples on the level of preference for the 5-day workweek and for the 4-day workweek. However, for the option of working less hours in a flexible manner, managers expected to prefer this option less. To analyze the level of preference within the samples for the different working hours models, each sample was compared relatively to the previous three models (5-day workweek vs. 4-day workweek vs. less hours flexibly). Regarding employees' expectations and experiences, the results show that the 5-day workweek is the least preferred option, and managers indicated the 4-day workweek as the most preferable option.

	5-Day Workweek		4-Day Workweek		Less Hours Flexibly			
	Μ	SD	Μ	SD	Μ	SD	- Within Subjects	
Sample 1 ($n = 61$) Employees expectations	2.72 ^{a(a)}	1.80	5.50 ^{a(b)}	1.90	5.18 ^{a(b)}	1.95	F (2, 118) = 39.76, p < 0.001	
Sample 2 ($n = 36$) Employees experience	2.26 ^{a(a)}	1.50	5.47 ^{a(b)}	1.96	5.19 ^{a(b)}	1.62	F(2, 68) = 36.05, p < 0.001	
Sample 3 (n = 47) Managers expectations	2.88 ^{a(a)}	2.15	6.07 ^{a(b)}	1.37	4.14 ^{b(b)}	2.27	F(1.70, 67.98) = 26.08, p < 0.001	
Between subjects	F(2, 138) = 1.18, p = 0.311		F(2, 138) = 1.60, p = 0.207		F(2, 138) = 4.16, p = 0.018			

Table 3. Working hours model preferences.

Note: 1 = low preference; 7 = high preference. Means with different superscript letters within the same column are significantly different from each other. Means with different superscript letters in brackets within the same row are significantly different from each other.

3.2. Implications of Reducing the Weekly Working Hours

Regarding the implications of reducing the weekly working hours for competitiveness and productivity, the participants were asked whether it would increase or decrease. The participants differ in their perceptions (Figure 2). When it comes to the competitiveness of companies, participants in sample 1 (employees' expectations) hold differing expectations from other samples. They anticipate a decrease, whereas the remaining participants consider that competitiveness has increased or expect it to increase (F (2, 143) = 12.42, p < 0.001). A similar pattern emerges regarding the impact on companies' productivity. While the participants in sample 1 anticipate a decrease in productivity, the participants in sample 2 report an increase. Additionally, managers anticipate a positive effect on company productivity from the reduction of working hours (F (2, 143) = 71.51, p < 0.001).

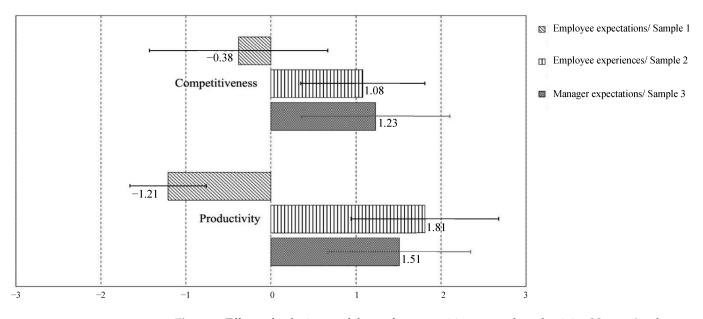
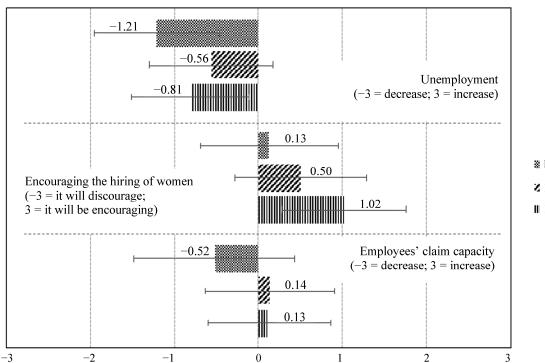


Figure 2. Effects of reducing work hours for competitiveness and productivity. Note: -3 = decrease; 3 = increase.

In terms of the implications for aspects such as unemployment, hiring women, and workers' ability to claim, the participants do not differ significantly in their opinions (or experience, in the case of sample 2; Figure 3). Regarding unemployment, all participants tend to expect a decrease. Regarding the potential for reduced working hours leading to the increased hiring of women, all participants anticipate a positive outcome, with more women entering the labor market. However, concerning the impact on workers' ability to actively participate in their working life, employees' expectations are pessimistic, suggesting that some ability to claim benefits is likely to be lost.

Regarding the impact of reduced working hours on aspects such as stress, the distribution of household responsibilities, and work–family balance, all participants exhibit a positive expectation (or experience; see Figure 4). Concerning stress, all participants believe that reducing the working hours will lead to lower stress levels. When it comes to the distribution of household responsibilities, managers hold a more positive view on the promotion of equality in the context of sexual roles within the family (*F* (2, 143) = 3.74, p = 0.026). Finally, concerning work–family balance, managers' expectations appear significantly more optimistic about enhancing the ability to balance professional and family commitments due to the reduction in working hours compared to other participants, who, despite their favorable stance, seem less optimistic (*F* (2, 142) = 4.72, p = 0.010).



BEMPLOYEE EXPEctations/ Sample 1

- ✗ Employee experiences/ Sample 2
- II Manager expectations/ Sample 3

Figure 3. Effects of reducing work hours for unemployment, the hiring of women, and employees' claim capacity. Note: -3 = decrease; 3 = increase. Sample 1: employee expectations; sample 2: employee experiences; sample 3: manager expectations.

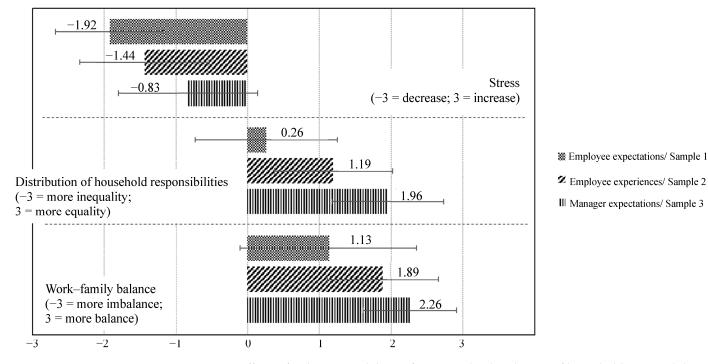
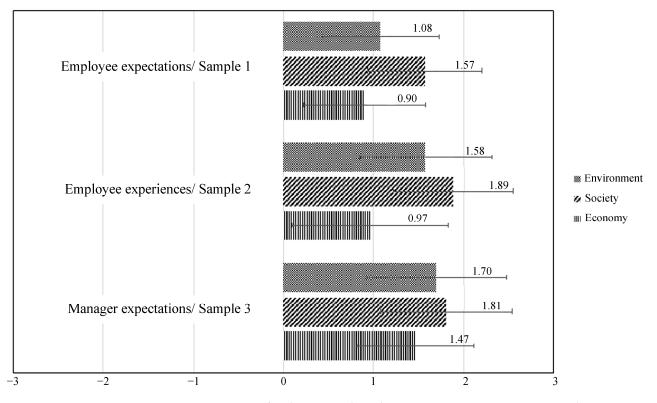


Figure 4. Effects of reducing work hours for stress, the distribution of household responsibilities, and work–family balance. Note: -3 = decrease; 3 = increase. Sample 1: employee expectations; sample 2: employees experiences; sample 3: manager expectations.

3.3. Impacts of Reducing the Weekly Working Hours

The participants across all analyzed samples hold an optimistic outlook regarding the anticipated impacts of reducing working hours on the environment, society, and the



economy (Figure 5). They expect that the reduction in working hours will yield positive effects in these three domains.

Figure 5. Impacts of reducing working hours on environment, society, and economy. Note: -3 = decrease; 3 = increase.

This optimistic expectation appears to be based on the analysis of the answers provided when questioned about the expectations about how the participants would use the extra time resulting from the reduction of working hours (or how they are currently using that time in the case of participants who experienced the reduction). The results indicate a generally positive anticipation of engaging in sports activities, increased participation in family and social activities, and investment in personal interests and hobbies (all means >5). No statistically significant differences are observed between the samples (see Table 4). However, when it comes to activities of social interest, such as volunteering, or investing in personal and professional development through education and training, the participants express a low likelihood of involvement (or note minimal impact on how they utilize their extra time, in the case of sample 2). Particularly, the participants in sample 1 (employees' expectations) indicate that engaging in these activities is unlikely or very unlikely (mean >4). Again, there are no statistically significant differences between the samples.

Lastly, concerning the anticipation of a potential increase in consumption behaviors, both employees and managers express expectations that this behavior is unlikely to change (means <3). However, employees who underwent the reduction noted that the additional time led to a notable increase in the consumption of items like clothing or technology.

	I Will Play More Sports		I Will Spend More Time with Family and Friends		I will Consume More (Clothes, Technology, etc.)		I Will Spend More Time Doing Hobbies		I Will Spend More Time Doing Social Interest Activities (e.g., Volunteering)		I Will Spend More Time in Education and Training Activities	
	М	SD	М	SD	М	SD	М	SD	М	SD	М	SD
Sample 1 (n = 61) Employee expectations	5.30 ^a	1.93	6.10 ^a	1.27	2.98 ^a	1.92	5.97 ^a	1.45	3.69 ^a	1.94	4.69 ^a	1.92
Sample 2 (n = 36) Employee experiences	5.19 ^a	1.70	6.19 ^a	1.35	4.14 ^b	1.76	5.94 ^a	1.45	4.44 ^a	1.73	4.58 ^a	1.73
Sample 3 (n = 47) Manager expectations	5.28 ^a	1.79	6.48 ^a	0.98	2.52 ^a	1.66	5.40 ^a	1.55	4.31 ^a	1.68	5.21 ^a	1.47
Between subjects		9) = 0.04, 964	<i>F</i> (2, 140 <i>p</i> = 0	, ,		8) = 8.21, 0.001	F (2, 139 p = 0	, .	F (2, 138 p = 0	3) = 2.50, 0.086	F (2, 139 p = 0	, .

Table 4. Expectations and	experiences regarding	g the use of additional time.

Note. 1 = very unlikely; 7 = very likely. Means with different superscript letters within the same column are significantly different from each other.

4. Discussion

The State of the Global Workplace 2022 Report [38] estimates that 81,396 h is how much time of life most people spend working. The only activity that surpasses work is sleeping. Furthermore, most workers report being miserable at work, or in other words, actively disengaged. Movements to change how we work keep on spreading, ranging from spreading remote work, making people thrive at work, to reducing working hours. From the employees' perspective, the social benefits of reducing working hours might be unquestionable. Nonetheless, as mentioned above, the reduction of working hours is a measure that affects multiple dimensions and cannot be solely evaluated from a social perspective, as it also has significant environmental and economic implications and affects various stakeholders. As a result, this measure must be evaluated holistically, and the ultimate goal of this work was to stimulate further research in this field.

4.1. Practical Implications

Reducing weekly working hours is a complex and multifaceted issue, and there are several challenges associated with its implementation. A main challenge is resistance from employers and employees who are concerned about the potential impacts of reducing working hours, as well as social norms and attitudes towards work that might perpetuate the idea that long working hours are a sign of dedication, commitment, and productivity. Therefore, this study focused on analyzing and comparing the expectations and experiences of employees and managers in the Portuguese context. Preferences towards the number and mode of working suggested that attitudes are favorable to change. Maintaining the current mode of work was not preferred by any group in this study. The results showed that managers preferred the 35 h/week option, and employees preferred the 32 h week. When it comes to the model of working hours per week, maintaining the current workweek was also the least preferred option. Individuals preferred the 4-day workweek or to work less hours in a flexible way. Of relevance, flexibility was less preferred by managers, who probably anticipated difficulties in the (re)organization of work.

In the economic dimension, our results indicate that participants differ in their opinions on the effect of reducing working hours on competitiveness and productivity. Employees' expectations were pessimistic about the impact on competitiveness and productivity, while the other two samples (managers and employees who had experienced a reduction in working hours) had a more positive outlook. Employees may fear that they will not be able to do their work in less time or that reducing working hours can increase the cost of production and may lead to wage reductions, which can negatively impact their livelihoods. Concerns may arise regarding the potential impact of reducing working hours on productivity and competitiveness, particularly if such reductions are not accompanied by corresponding improvements in organizational efficiency. However, our findings indicate that workers who have experienced reduced working hours hold a notably positive view regarding its effect on productivity. The effectiveness and sustainability of working time reduction as a management practice rely on the organizational adaptations implemented to enhance efficiency and performance [7].

WTR holds potential for a positive environmental impact, contributing to lower emissions, energy consumption, and ecological footprints. However, the outcomes depend on how individuals use their extra leisure time and the specific implementation context. Notably, spending more time with family and friends emerged as a common expectation across all groups, emphasizing the crucial role of relationships in overall well-being [39]. Additionally, the participants also report expectations/experiences in engaging in hobbies and sports in their extra free time, beneficial activities that align with the World Health Organization's promotion of physical activity for achieving the Sustainable Development Goals, offering numerous health, social, and economic advantages [40]. However, our findings challenged the initial expectations regarding workers' environmental impact under WTR. Although employees and managers did not anticipate a rise in consumption, those who experienced reduced working hours reported an increase. This outcome may be attributed to workers maintaining their wages, as a reduction in income might otherwise suggest a shift toward decreased consumption and related impacts [41,42]. These findings underscore the need to better understand how workers use their additional free time and how their activities intersect with sustainability goals. Encouraging low-impact, healthpromoting activities such as sports while discouraging high-consumption behaviors would be essential in minimizing negative environmental impacts.

Reducing working hours can have significant positive impacts on workers' health and well-being, as it can lead to improved work-life balance, reduced stress and burnout, and better mental health [16,17]. However, the effects on health may depend on how the extra free time is spent and the specific circumstances of the individuals [18]. Optimistically, positive expectations were found among all participants regarding the effects of reducing working hours on stress, the distribution of household responsibilities, and work-family balance. There was one exception: employees expect that claim capacity (that is, actions to demand what one has by right or what one believes to have in terms of work) will be lost, perhaps due to the need for reciprocity after such a significant benefit as reduced working hours. WTR holds additional significant social implications, particularly concerning workforce diversity and balance. Managers expect positive outcomes, such as increased female employment and improved work-family equilibrium. This shift can help address demographic challenges and promote social equality, particularly by advancing gender parity at both the household and organizational levels. When supported by well-designed public policies, WTR can also encourage higher birth rates and facilitate the advancement of women into leadership roles [43].

Overall, when questioned about the environmental, social, and economic impacts of WTR, the participants—including both managers and employees—expressed optimism regarding the positive effects of reduced working hours. Consequently, this work-related measure emerges as a potential contributor to addressing global sustainability challenges [44].

4.2. Theoretical Implications

This study highlights workers' expectations and experiences regarding the economic impacts of WTR, particularly in terms of productivity and competitiveness. While some economic studies raise concerns that reduced hours could lower productivity or increase operational costs [45], our findings suggest that workers who have experienced reduced working hours often view WTR positively in terms of productivity and competitiveness gains. This may indicate that WTR, when implemented with organizational efficiency measures such as technology integration and process optimization, can support productivity improvements can be raised, such as whether they arise primarily from technology and automation or from genuine increases in labor productivity driven by heightened motivation and job satisfaction [12].

While WTR offers potential environmental benefits, this study brings attention to an important consideration: the environmental impact of WTR may vary significantly depending on how individuals use their increased free time. Our findings reveal that although participants generally anticipated that WTR would not lead to higher consumption, those who actually experienced reduced working hours reported an increase in consumption, suggesting that shifts in free time can drive changes in consumption patterns. This aligns with Pullinger's [28] observation that the composition of consumption shifts alongside changes in workers' behaviors, leading to uncertain environmental impacts arising from evolving consumption patterns. These findings underscore the importance of further research into behavioral changes in consumption associated with lifestyle adjustments under WTR.

The study has a focus on the social effects of WTR, particularly around stress, workfamily balance, household responsibilities, gender equity, and workers' claim capacity. Findings indicate positive expectations and experiences regarding stress reduction, improved work–family balance, the reallocation of household responsibilities, and the hiring of women. However, employees expressed concerns about "claim capacity", potentially fearing a reduction in their perceived value due to WTR. Furthermore, the general expectation of a positive impact on gender equity, particularly in terms of increased female workforce participation, alongside anticipated improvements in the equitable distribution of household responsibilities, suggests that WTR may support social equality objectives by fostering more balanced domestic and professional roles.

The findings from this study support the notion that WTR can serve as a valuable management tool for businesses aiming to invest in their workforce. Investment in human capital enhances business competitiveness, work engagement, organizational performance, and employee satisfaction [33,36,37,46]. By reducing employees' working hours, WTR seeks to improve workers' overall well-being. As a strategy of SR-HRM, WTR can significantly contribute to both employee satisfaction and organizational performance, establishing it as a legitimate and effective management practice. In this context, the reduction of working time stands out as a legitimate and effective management tool [7].

4.3. Limitations and Future Directions

This study explores the potential impacts, expectations, and experiences of WTR in more than one sustainability dimension. Despite being limited to one country with a small sample size, this study offers fundamental insights crucial for decision-making processes regarding WTR. Its significance lies in its relevance to a European country where discussions surrounding WTR, particularly the 4-day week, have persisted among politicians, media, and businesses for more than two years. The inclusion of this topic in the electoral agendas of two political parties (in 2022 and 2024), alongside the publication of

numerous articles in mainstream newspapers [47–49] and a pilot experiment organized by the Ministry of Labour, Solidarity, and Social Security in 2023 involving 41 companies and over 1000 workers [50], further underscores its importance. This suggests that the results should be understood in a context where it is considered important enough to be on the political agenda, there is public and organizational interest, and there are implementation experiences. Even within such a context, there may be misconceptions that warrant further understanding to maximize its sustainable implementation.

Future research could include in-depth interviews with participants who have experienced working time reductions, especially those who reported increased consumption, to gain further insight into this impactful finding, which may carry important environmental implications. As mentioned earlier, it would also be interesting to find out the sources of productivity improvements, if they stem from technology use and automation, genuine enhancements in labor productivity result of motivation, or others.

Supplementary Materials: The following supporting information can be downloaded at: https://www.mdpi.com/article/10.3390/su17020423/s1, The Survey (Translated to English).

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References

- Luís, S.; Silva, I. Humanizing sustainability in organizations: A place for workers' perceptions and behaviors in sustainability indexes? *Sustain. Sci. Pract. Policy* 2022, 18, 371–383. [CrossRef]
- Dias, S.; Luís, S.; Cruz, B. Measuring well-being at organizational context: Exploring the Better Life Index as a measurement tool. Soc. Responsib. J. 2024, 20, 1041–1055. [CrossRef]
- United Nations. The 17 Sustainable Development Goals. 2015. Available online: https://sdgs.un.org/goals/goal8#targets_and_ indicators (accessed on 8 November 2024).
- Partido Socialista. Programa Eleitoral Partido Socialista 2022. 2022; p. 67. Available online: https://ps.pt/programas-eleitorais/ programas-eleitorais-do-ps/ (accessed on 22 November 2024).
- 5. Twenge, J.M. A Review of the Empirical Evidence on Generational Differences in Work Attitudes. *J. Bus. Psychol.* 2010, 25, 201–210. [CrossRef]
- Eurofound. Working Time. 2022. Available online: https://www.eurofound.europa.eu/topic/working-time (accessed on 15 January 2023).
- 7. Gomes, P.; Fontinha, R. Relatório Final do Projeto-Piloto da Semana de Quatro Dias; IEFP: Lisboa, Portugal, 2024.
- Cárdenas, L.; Villanueva, P. Challenging the working time reduction and wages trade-off: A simulation for the Spanish economy. *Camb. J. Econ.* 2021, 45, 333–351. [CrossRef]

- 9. Lukács, B.; Antal, M. The practical feasibility of working time reduction: Do we have sufficient data? *Ecol. Econ.* 2023, 204, 107629. [CrossRef]
- Crimmann, A.; Wießner, F.; Bellmann, L. The German Work-Sharing Scheme: An Instrument for the Crisis. 2010. Available online: http://www.ilo.int/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_14 5335.pdf (accessed on 7 July 2024).
- Mompelat, L. The Environmental Benefits of a Shorter Working Week. 2021. Available online: https://www.newstatesman.com/ politics/uk/2019/02/leader-benefits-shorter-working-week (accessed on 15 July 2024).
- 12. Golden, L. The Effects of Working Time on Productivity and Firm Performance: A Research Synthesis Paper. 2012. Available online: https://labordoc.ilo.org/discovery/fulldisplay/alma994708473402676/41ILO_INST:41ILO_V2 (accessed on 9 July 2024).
- 13. Kallis, G.; Kalush, M.; O'Flynn, H.; Rossiter, J.; Ashford, N. "Friday off": Reducing working hours in Europe. *Sustainability* **2013**, *5*, 1545–1567. [CrossRef]
- 14. van Ark, B.; O'Mahoney, M.; Timmer, M.P. The productivity gap between Europe and the United States: Trends and Causes. *J. Econ. Perspect.* **2008**, *22*, 25–44. [CrossRef]
- Feenstra et al. (2015) Penn World Table (2021)—With Major Processing by Our World in Data, Annual Working Hours per Worker [Dataset]. [Original Data]. Available online: https://ourworldindata.org/grapher/productivity-vs-annual-hours-worked (accessed on 26 August 2024).
- Barck-Holst, P.; Nilsonne, Å.; Åkerstedt, T.; Hellgren, C. Reduced working hours and stress in the Swedish social services: A longitudinal study. *Int. Soc. Work* 2017, 60, 897–913. [CrossRef]
- Schiller, H.; Lekander, M.; Rajaleid, K.; Hellgren, C.; Åkerstedt, T.; Barck-Holst, P.; Kecklund, G. The impact of reduced worktime on sleep and perceived stress—A group randomized intervention study using diary data. *Scand. J. Work. Environ. Health* 2017, 43, 109–116. [CrossRef] [PubMed]
- Voglino, G.; Savatteri, A.; Gualano, M.R.; Catozzi, D.; Rousset, S.; Boietti, E.; Bert, F.; Siliquini, R. How the reduction of working hours could influence health outcomes: A systematic review of published studies. *BMJ Open* 2022, *12*, e051131. [CrossRef] [PubMed]
- 19. Buhl, J.; Acosta, J. Work less, do less? Working time reductions and rebound effects. Sustain. Sci. 2016, 11, 261–276. [CrossRef]
- 20. Mullens, F.; Laurijssen, I. An organizational working time reduction and its impact on three domains of mental well-being of employees: A panel study. *BMC Public Health* **2024**, *24*, 1727. [CrossRef]
- 21. Neubert, S.; Bader, C.; Hanbury, H.; Moser, S. Free days for future? Longitudinal effects of working time reductions on individual well-being and environmental behaviour. *J. Environ. Psychol.* **2022**, *82*, 101849. [CrossRef]
- 22. Lepinteur, A. The shorter workweek and worker wellbeing: Evidence from Portugal and France. *Labour Econ.* **2019**, *58*, 204–220. [CrossRef]
- 23. Fitzgerald, J.B.; Schor, J.B.; Jorgenson, A.K. Working Hours and Carbon Dioxide Emissions in the United States, 2007–2013. *Soc. Forces* 2018, *96*, 1851–1874. [CrossRef]
- 24. Knight, K.W.; Rosa, E.A.; Schor, J.B. Could working less reduce pressures on the environment? A cross-national panel analysis of OECD countries, 1970–2007. *Glob. Environ. Change* **2013**, *23*, 691–700. [CrossRef]
- 25. Nässén, J.; Larsson, J. Would shorter working time reduce greenhouse gas emissions? An analysis of time use and consumption in Swedish households. *Environ. Plan. C Gov. Policy* **2015**, *33*, 726–745. [CrossRef]
- 26. Devetter, F.-X.; Rousseau, S. Working hours and sustainable development. Rev. Soc. Econ. 2011, 69, 333–355. [CrossRef]
- 27. Buhl, J.; Acosta, J. Labour Markets: Time and Income Effects from Reducing Working Hours in Germany. In *Rethinking Climate and Energy Policies*; Santarius, T., Walnum, H., Aall, C., Eds.; Springer: Cham, Switzerland, 2016; pp. 163–179. [CrossRef]
- 28. Pullinger, M. Working time reduction policy in a sustainable economy: Criteria and options for its design. *Ecol. Econ.* **2014**, *103*, 11–19. [CrossRef]
- 29. Druckman, A.; Buck, I.; Hayward, B.; Jackson, T. Time, gender and carbon: A study of the carbon implications of British adults' use of time. *Ecol. Econ.* **2012**, *84*, 153–163. [CrossRef]
- 30. Pullinger, M. Greening Our Working Lives: The Environmental Impacts of Changing Patterns and Implications for Working Time Policy. Ph.D. Thesis, The University of Edinburgh, Edinburgh, UK, 2011.
- 31. Zwickl, K.; Disslbacher, F.; Stagl, S. Work-sharing for a sustainable economy. Ecol. Econ. 2016, 121, 246–253. [CrossRef]
- King, L.C.; Bergh, J.C.v.D. Worktime Reduction as a Solution to Climate Change: Five Scenarios Compared for the UK. *Ecol. Econ.* 2017, 132, 124–134. [CrossRef]
- 33. Sancho, M.P.L.; Martínez-Martínez, D.; Jorge, M.L.; Madueño, J.H. Understanding the link between socially responsible human resource management and competitive performance in SMEs. *Pers. Rev.* **2018**, *47*, 1211–1243. [CrossRef]
- Paillé, P.; Boiral, O. Pro-environmental behavior at work: Construct validity and determinants. J. Environ. Psychol. 2013, 36, 118–128. [CrossRef]

- 35. Barrena-Martínez, J.; López-Fernández, M.; Romero-Fernández, P.M. Towards a configuration of socially responsible human resource management policies and practices: Findings from an academic consensus. *Int. J. Hum. Resour. Manag.* **2017**, *30*, 2544–2580. [CrossRef]
- 36. Cegarra-Leiva, D.; Sánchez-Vidal, M.E.; Cegarra-Navarro, J.G. Understanding the link between work life balance practices and organisational outcomes in SMEs: The mediating effect of a supportive culture. *Pers. Rev.* **2012**, *41*, 359–379. [CrossRef]
- 37. Turker, D. Measuring Corporate Social Responsibility: A Scale Development Study. J. Bus. Ethics 2009, 85, 411–427. [CrossRef]
- 38. Gallup. State of the Global Workplace—2022 Report; Gallup: Washington, DC, USA, 2022.
- Waldinger, R.; Schulz, M. The Good Life: Lessons from the World's Longest Scientific Study of Happiness; Simon & Schuster: New York, NY, USA, 2023.
- 40. WHO. *Global Action Plan on Physical Activity 2018–2030: More Active People for a Healthier World;* World Health Organization: Geneva, Switzerland, 2018.
- 41. Sahakian, M.; Rossier, C. The societal conditions for achieving sufficiency through voluntary work time reduction: Results of a pilot study in Western Switzerland. *Front. Sustain.* **2022**, *3*, 956055. [CrossRef]
- 42. Antal, M.; Plank, B.; Mokos, J.; Wiedenhofer, D. Is working less really good for the environment? A systematic review of the empirical evidence for resource use, greenhouse gas emissions and the ecological footprint. *Environ. Res. Lett.* **2021**, *16*, 013002. [CrossRef]
- 43. Jacquot, S.; Ledoux, C.; Palier, B. The europeanisation of reconciliation policies in France: Boasting. . . But learning. *Eur. J. Soc. Secur.* 2011, 13, 69–88. [CrossRef]
- 44. Larsson, J.; Nässén, J.; Lundberg, E. Work-time reduction for sustainable lifestyles. In *Routledge Handbook of Global Sustainability Governance*, 1st ed.; Routledge: London, UK, 2019; p. 14. [CrossRef]
- Fitzgerald, T. Reducing Working Hours. 1996. Available online: https://fraser.stlouisfed.org/title/economic-review-federalreserve-bank-cleveland-1328/1996-quarter-4-4638?page=15 (accessed on 26 August 2024).
- 46. Pimenta, S.; Duarte, A.P.; Simões, E. How socially responsible human resource management fosters work engagement: The role of perceived organizational support and affective organizational commitment. *Soc. Responsib. J.* **2024**, *20*, 326–343. [CrossRef]
- Almeida, J. Um Sexto dos Trabalhadores com Semana de 4 Dias Ficaria na Empresa. J. Negócios. 2023. Available online: https://www.jornaldenegocios.pt/economia/emprego/mercado-de-trabalho/detalhe/um-sexto-dos-trabalhadores-comsemana-de-4-dias-ficaria-na-empresa (accessed on 8 March 2024).
- Gomes, P. Série Semana de Quatro Dias (4): Uma Vantagem Competitiva Para as Empresas, Público 2023. Available online: https://www.publico.pt/2023/01/06/opiniao/opiniao/serie-semana-quatro-dias-4-vantagem-competitiva-empresas-2033869 (accessed on 20 November 2024).
- Patrício, I. Há Empresas que já Admitem Manter Semana de Quatro Dias após Fim do Projeto-Piloto, Ecco 2023. Available online: https://eco.sapo.pt/2023/11/10/ha-empresas-que-ja-admitem-manter-semana-de-quatro-dias-apos-fim-do-projetopiloto/ (accessed on 8 March 2024).
- PORTUGAL.GOV.PT. 95% das Empresas Avaliam Positivamente Experiência da Semana de Quatro Dias. 2023. Available online: https://www.portugal.gov.pt/pt/gc23/comunicacao/noticia?i=95-das-empresas-avaliam-positivamente-experienciada-semana-de-quatro-dias (accessed on 21 March 2024).

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