



## **Working less by choice: what are the benefits and hardships?**

Downloaded from: <https://research.chalmers.se>, 2026-04-04 12:43 UTC

Citation for the original published paper (version of record):

Persson, O., Larsson, J., Nässén, J. (2022). Working less by choice: what are the benefits and hardships?. *Sustainability: Science, Practice, and Policy*, 18(1): 81-96.

<http://dx.doi.org/10.1080/15487733.2021.2023292>

N.B. When citing this work, cite the original published paper.



## Working less by choice: what are the benefits and hardships?

Ola Persson, Jörgen Larsson & Jonas Nässén

To cite this article: Ola Persson, Jörgen Larsson & Jonas Nässén (2022) Working less by choice: what are the benefits and hardships?, Sustainability: Science, Practice and Policy, 18:1, 81-96, DOI: [10.1080/15487733.2021.2023292](https://doi.org/10.1080/15487733.2021.2023292)

To link to this article: <https://doi.org/10.1080/15487733.2021.2023292>



© 2022 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group



Published online: 21 Jan 2022.



Submit your article to this journal [↗](#)



Article views: 322



View related articles [↗](#)



View Crossmark data [↗](#)

## Working less by choice: what are the benefits and hardships?

Ola Persson<sup>a</sup> , Jörgen Larsson<sup>b</sup>  and Jonas Nässén<sup>b</sup> 

<sup>a</sup>Department of Urban Planning and Environment, KTH Royal Institute of Technology, Stockholm, Sweden; <sup>b</sup>Department of Space, Earth and Environment, Chalmers University of Technology, Gothenburg, Sweden

### ABSTRACT

Working time reduction (WTR) is a policy that could improve quality of life while reducing environmental impacts. However, WTR coupled with a salary reduction may benefit only higher-income earners and increase social inequalities. Against this background, we analyze how the motivations for and the socioecological outcomes from working less vary across different socioeconomic groups. The analysis is based on a survey conducted among municipal employees under full-time contracts who utilized the City of Gothenburg's "right to part-time" policy. We find that working less improved quality of life not only for higher-income groups but also for lower-income groups through gains in time affluence, energy, health, and time spent on strengthening social ties. However, three negative effects emerged. First, WTR lead to increased work intensification, particularly among higher-income earners. Second, concerns regarding making ends meet and future retirement income were particularly salient issues among lower-income earners. Finally, WTR to cope with unfavorable working conditions was a much more common motivation among manual workers with lower salaries. We conclude that WTR can be a viable option across a broader range of socioeconomic groups than previously assumed but that it is nevertheless important to consider the effects on social inequality when designing WTR policies.

### ARTICLE HISTORY

Received 31 May 2021

Accepted 21 December 2021

### KEYWORDS



Working time reduction; policy; environmental impact; quality of life; social equality

### Introduction

Working time reduction (WTR) is frequently discussed, especially among post-growth scholars (e.g., Alexander 2015; Gough 2017; Parrique 2019), as a policy alternative to help tackle various social and environmental issues. To begin with, there is a growing number of people suffering from stress and burnout due to long working hours which WTR could serve to alleviate (Coote, Harper, and Stirling 2021). In circumstances of low or zero economic growth (Antal 2014; Zwickl, Disslbacher, and Stagl 2016) analysts have claimed that WTR can reduce unemployment, as it allows for the re-employment of displaced workers through work sharing (Gunderson 2019). Furthermore, since reducing work hours usually involves lower real income levels, and due to the fact that income is strongly tied to consumption volumes and ecological impact (Wiedmann et al. 2020), several authors have suggested that WTR can be an important policy for decreasing environmental damage in affluent societies (Hayden and Shandra 2009; Antal 2018; Fremstad, Paul, and Underwood 2019).

With these aforementioned issues in mind, there are two main reasons for studying the potential outcomes of WTR policies in terms of environmental impacts, quality of life, and social inequality (hereafter referred to as "socioecological" outcomes). First, the literature on WTR argues that working less can result in a "double dividend," meaning that environmental damage is decreased as a result of diminished income, while simultaneously maintaining – or even increasing – quality of life (Pullinger 2014; Fitzgerald, Schor, and Jorgenson 2018).<sup>1</sup> Second, concerns have been raised as to potential negative aspects of WTR policies regarding social inequalities such as increased financial disparities (Kallis et al. 2013; Levy 2017) and gendered differences in terms of care responsibilities and income (Pullinger 2014; De Spiegelaere and Piasna 2017) which prompts the need to further consider these perspectives.

While there is ample literature arguing for WTR policies, there have been limited empirical efforts to analyze the motives for and outcomes from working less in the context of already implemented WTR policies. Exceptions include studies on the outcomes of France's 35-hour work-week reform on

**CONTACT** Ola Persson  [olaperss@kth.se](mailto:olaperss@kth.se)  Department of Urban Planning and Environment, KTH Royal Institute of Technology, Stockholm, Sweden

This article has been republished with minor changes. These changes do not impact the academic content of the article.

© 2022 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

consumption (Sanches 2005), quality of life, and time use (Hayden 2006) as well as worker well-being (Lepinteur 2019). Furthermore, Gerold and Nocker's (2018) analysis of the Austrian leisure-option policy provides insights into which socioeconomic groups prefer WTR and the possible motives and barriers to such a choice. Outside of the policy realm, several studies have also examined the outcomes on the environment and quality of life for individuals who have reduced their working time (e.g., Buhl and Acosta 2016; Hanbury, Bader, and Moser 2019; Lindsay, Lane, and Humphery 2020).

However, in circumstances where WTR is coupled with a proportional salary cut, there remains little understanding of how the motivations for and the socioecological outcomes from working less vary across different socioeconomic groups. This article addresses these questions through the case of the city of Gothenburg's "right to part-time" policy that allows for a voluntary and flexible WTR with a proportional salary cut. Studying these types of WTR policies is particularly relevant as it has been argued by Pullinger (2014) that voluntary and flexible WTR, coupled with a proportional salary reduction, is important for achieving both environmental and quality-of-life benefits. There have been previous studies of Gothenburg's right to part-time policy. Larsson, Nässén, and Lundberg (2020) examined the outcomes on quality of life, gender equality, employment, public finances, and environmental impacts while Björk, Larsson, and Lundberg (2020) explored the motivations behind working less. Yet neither of these examples offers an in-depth analysis of how motives and socioecological outcomes vary across different socioeconomic groups which is the objective of this article. We focus mainly on outcomes concerning quality of life and social inequality but also offer a rudimentary analysis with regard to motives and environmental impacts

Specifically, this article aims to contribute knowledge on how reduced working time can affect different socioeconomic groups and how WTR policies could be designed to promote an equitable socioecological transformation. Together with employment records providing information on socioeconomic factors, our analysis is based on survey responses from municipal employees contracted to work full-time but who have opted for WTR.

The article proceeds as follows. The next section provides a literature review of the socioecological aspects of WTR. The third section outlines various examples of WTR-policy schemes. We then illustrate the details of the policy and provide a brief background discussion as to why the City of Gothenburg implemented the policy before introducing the methodology of this study. This is followed by

analysis of our results by first examining the socio-economic details provided by the respondents and their motives for working less. By focusing on environmental impacts, quality of life, and social inequality, this article subsequently analyzes the potential socioecological outcomes of the policy and ends with a concluding discussion.

## Literature review

In this section, we first review the motives behind working less as identified in the literature. This is followed by reviews about the environmental impacts, quality-of-life implications, and potential social inequality aspects of WTR.

## Motives

Studies exploring why individuals might reduce their working hours have identified several motives. In one notable case, Gerold and Nocker (2018) found that the key reasons for Austrian workers to choose more leisure time over a salary increase related to gains in time with family, children, sports, and hobbies. Similarly, Buhl and Acosta (2016) and Hanbury, Bader, and Moser (2019) identified more time for family, friends, and leisure activities as important motives for self-determined WTR as well as, to some degree, voluntary work and to alleviate stress and health issues. Broadly speaking, these preferences could be defined as "downshifting" which refers to voluntary reductions in work and income motivated by a desire to alleviate time pressures and improve quality of life (Sorrell, Gatersleben, and Druckman 2020). A similar term is "voluntary simplicity" which can be "understood as a way of life in which people choose to restrain or reduce their material consumption, while at the same time seeking a higher quality of life" (Alexander 2015, 214; see also Elgin 2010). Generally, individuals who practice voluntary simplicity tend to be critical of overconsumption and overwork due to both planetary and personal health reasons (Aidar and Daniels 2020). In this article, we make a distinction between downshifting and voluntarily simplicity. The former is concerned with living a balanced life by devoting more time to family and friends, hobbies and so forth while the latter is centered on achieving life satisfaction through cultivating non-materialistic and pro-environmental values by consuming less.

Importantly, both downshifting and voluntarily simplicity entail reductions of working hours and income that are not due to external changes such as an economic downturn (Aidar and Daniels 2020; Sorrell, Gatersleben, and Druckman 2020).

Moreover, some analysts have been critical of these lifestyle practices for neglecting structural aspects that may influence the experiences and reasons for reducing working hours (e.g., Lindsay, Lane, and Humphrey 2020), thus questioning to what extent WTR can be considered truly voluntary. We will return to these questions later in our discussion.

### **Environmental impacts**

Generally, there are two different ways in which a reduction in working hours can influence environmental outcomes: the so-called “income effect” and “time effect.”<sup>2</sup> The income effect refers to a reduction in disposable income that leads to lower consumption spending and changes in the composition of consumption while the time effect relates to how household consumption and environmentally relevant practices are altered by increased leisure time (Nässén and Larsson 2015).

Several studies have sought to estimate the environmental impacts of WTR by using either aggregated gross domestic product (GDP) data for a selection of countries or data from individual households in a single country.

A majority of the country-level studies showcase a positive relationship between hours worked and particular environmental impacts, meaning more hours worked increases environmental harm (Schor 2005; Rosnick and Weisbrot 2007; Hayden and Shandra 2009; Knight, Rosa, and Schor 2013; Fitzgerald, Jorgenson, and Clark 2015; Fitzgerald, Schor, and Jorgenson 2018; Mallinson and Cheng 2021; Simionescu et al. 2021). Two notable exceptions are Shao and Rodríguez-Labajos (2016) and Shao and Shen (2017). The first study observed that a reduction in working hours increased carbon emissions in wealthier countries between 2000 and 2010 while the second study found that there were no environmental benefits from WTR in high-income countries where working hours are already low. Different explanations have been provided for why the results from these two studies deviate from other country-level studies. Sorrell, Gatersleben, and Druckman (2020) suggest that the results could be explained by noting that beyond a certain income level, people use their additional leisure time for energy-intensive practices. Antal et al. (2021), meanwhile, argue that data discrepancies and methodological issues explain the differences.

Studies at the household-level reveal a positive relationship between hours worked and environmentally intensive consumption (Devetter and Rousseau 2011; Nässén and Larsson 2015; Buhl and Acosta 2016; Fremstad, Paul, and Underwood 2019). However, Nässén and Larsson (2015) and

Buhl and Acosta (2016) found that additional leisure time did lead to a rebound effect in terms of carbon and resource-intensive consumption. Yet, these two studies conclude that WTR still can be environmentally beneficial due to the income effect outweighing the observed time use rebound effect.

Consequently, the majority of studies at both the household and country levels suggest that WTR would lower environmental pressure. A recent review, however, found that no strong conclusions can be drawn on the relationship between working hours and environmental impact due to the scopes and methods used by the studies that comprised the assessment (Antal et al. 2021). Nevertheless, Hanbury, Bader, and Moser (2019) conceive that at the household-level environmentally beneficial WTR still is possible.

### **Quality of life**

Working less may improve quality of life in several ways. First, long working hours negatively impact work-life balance (Albertsen et al. 2008). Additionally, excessive working time has negative consequences for health and well-being due to increased stress and work-related accidents (Coote, Harper, and Stirling 2021). With this in mind, working less is likely to counter these tendencies and restore work-life balance (Gunderson 2019; Parrique 2019). Second, WTR can increase “time affluence” – meaning the opposite of living under time pressure – which has been shown to reduce anxiety, to improve social relations, and to increase time spent on physical activities (Kasser and Sheldon 2009). Finally, WTR can lead to more time being devoted to family, friends, and leisure activities which are time use categories that researchers have identified as beneficial for well-being (Killingsworth and Gilbert 2010). Empirically, Lepinteur (2019), for example, identified quality-of-life improvements for reforms where salaries remained the same but the effects are more inconclusive in cases where salaries have been proportionally reduced (see, for example, Buhl and Acosta 2016).

### **Social inequality**

From an equality perspective, a pressing challenge discussed in the WTR literature is that reduced working time may increase financial hardships as lower-income groups would earn even less with a salary cut and this measure would, in turn, perpetuate social injustices (e.g., Levy 2017; Strunz and Schindler 2018; Bottazzi 2019; Coote, Harper, and Stirling 2021). This outcome occurs because expenditures on essential products and services (e.g., food and housing) tend to take a proportionally higher

share of income among lower-income earners compared to higher-income earners. Voluntary WTR schemes with a proportional salary cut have therefore predominately been seen as an option for well-to-do households and individuals as they are able to afford the reduction (Strunz and Schindler 2018; Bottazzi 2019; Sorrell, Gatersleben, and Druckman 2020). If WTR with a salary cut is utilized mainly by higher-income earners it could lead to a lessening of economic inequalities (Pullinger 2014) while increasing temporal inequalities as affluent groups are able to enjoy ample leisure time while groups with lower earnings are forced to work long hours to meet essential needs. Therefore, a decrease in income inequality would essentially be replaced by leisure inequality (Antal 2018). On a societal level, though, WTR may result in the hiring of new employees, previously unemployed persons, or underemployed individuals through the expansion and normalization of work-sharing arrangements (Gunderson 2019). This outcome would effectively redistribute income and reduce inequality. During economic recessions, for example, it has been demonstrated that work sharing can keep employment at a high level even though demand for labor is low (Zwickl, Disslbacher, and Stagl 2016). How successful WTR is in providing additional employment is, however, a complex issue and seems to depend on

the economic and institutional context as well as the specific details of its implementation (Zwickl, Disslbacher, and Stagl 2016).

Another equality issue concerns gender as women traditionally take on more domestic and care responsibilities and are more likely to reduce their working hours compared to men (Arntsen, Philp, and Donegani 2018; Coote, Harper, and Stirling 2021). Particularly, studies have found that women who live in a dual-earner household with younger children have an increased likelihood of working less (Pullinger 2014). This situation relates to the “male breadwinner” norm (Gerold and Nocker 2018) where men have traditionally been expected to be the primary salary earner while women are responsible for care work. Due to such gender norms, WTR can reinforce economic gender inequalities through lower salaries and retirement income. This policy approach may therefore be problematic from a gender perspective (Arntsen, Philp, and Donegani 2018) and we discuss the gender dimensions of the right to part-time policy further below.

### Overview of WTR policies

To contextualize our case, Table 1 summarizes WTR-policy examples that have been implemented under various conditions and with different

**Table 1.** Examples of different WTR policies.

Example	Overview	Implementation level	Type	Duration
Right to part-time work, The Netherlands	The right was gradually implemented, but the “Working Hours Adjustment Act” from 2000 was key, stating that employees have the legal right to reduce their working hours unless the employer can show that it will have unreasonable consequences. Salary reduction is proportional and hence paid for by employees via a loss of income (De Spiegelaere and Piasna 2017).	National	Individual and voluntary	2000–
35-hour work week, France	The French government reduced weekly working hours from 39 to 35. Salaries were not cut but remained frozen for 18 months following the implementation. The shorter working week was mainly paid for by the workers and the government (Hayden 2006). However, successive French governments have since eroded the shorter working week in various ways (De Spiegelaere and Piasna 2017).	National	Collective and mandatory	1998–2008
6-hour work day, Toyota service centers, Sweden	Due to long waiting times for customers and increasing stress-related accidents among staff, a Toyota service center in Gothenburg switched to two six-hour shifts. The reduction in working hours came with no reduction in salaries (Crouch 2015).	Organizational	Collective and mandatory	2002–
Leisure option, Austria	Through a collective agreement covering several sectors, employees may individually choose between a 3% salary increase or an additional five hours per month of leisure time. For those opting for more leisure time, salaries remain unchanged, resulting in a real salary loss proportional to the inflation rate. Therefore, the increase in leisure time is paid for by the employees (Gerold and Nocker 2018).	Sectorial	Individual and voluntary	2013–
IG Metall 28-hour work week, Germany	IG Metall union members have, via a collective agreement, the option to reduce their working week to 28 hours for up to two years, with the right to return to full-time employment afterwards (Oltermann 2018). Workers who have care responsibilities or high work-related health risks receive an additional state allowance (Stronge et al. 2019). Therefore, the WTR is partially state-funded, and the remaining salary deficit is covered by the employee via income loss.	Sectorial	Individual and voluntary	2019–

characteristics. Our selection of cases was predominantly based on De Spiegelaere and Piasna's (2017) synthesis of WTR initiatives. We have only included policy examples and have excluded short-term experiments and parental leave schemes, the latter of which is particularly common across Europe and where Nordic countries have the most generous benefits (Gough 2017). The policies outlined in the table differ in terms of temporal structure, extent of implementation, type, and whether salaries are cut or retained (De Spiegelaere and Piasna 2017). We now turn to describing our case in the next section.

## Methods

### Case

Before we discuss our case in detail, it is noteworthy that Sweden has implemented national policies that support WTR under certain conditions. Specifically, individuals with children under the age of eight or who are in school have the legal right to reduce their working time. It is also prohibited by law to discriminate against people who work part-time (Björk, Larsson, and Lundberg 2020). At the national level, 21% (30% of women and 12% of men) of the working population are working part-time which is close to the average for all European Union countries (Eurostat 2019).

Within the Swedish municipal sector, there is a long history of part-time work among employees.<sup>3</sup> However, the extensive use of part-time work has been subject to increasing criticism from a gender-equality perspective, as it is mainly women who work part-time, resulting in lower salaries and – as a consequence – lower retirement incomes (Larsson, Nässén, and Lundberg 2020).<sup>4</sup> To address these issues, the City of Gothenburg decided in 2011 to offer full-time contracts to all of its 50,000 employees. However, for those who did not want to – or could not – work a full 40 hours per week, a second policy was implemented in 2015 that gave all employees in the City of Gothenburg the right to request reduced work time (down to 50% of full-time hours) regardless of motive (Göteborgs Stad 2015). The policy states that line managers are not allowed to deny a request to work part-time without first trying to find a solution with the aid of the human-resources department (Göteborgs Stad 2015). From the municipality, these work-life policies are formulated as a “right to full-time work, with the option to work part-time” (Göteborgs Stad 2018). Thus, the policy allows for an individual and voluntary decision for WTR and where the reduction in working hours comes with a proportional salary cut. Our policy case can also be considered flexible, as it can vary in temporal structure

depending on employee preferences (e.g., working shorter days or fewer working days per week).

### Methods

Our analysis is mainly based on a survey conducted in 2016 among part-time workers employed by the City of Gothenburg. With the aid of the municipal government's central human-resources department, we identified the sample population which included employees who had a full-time contract but had opted to work on a part-time basis. We excluded people who had utilized their legal right to work part-time to attend school, individuals who were simultaneously receiving parental leave benefits, and workers who had been working part-time for more than ten years. Through this procedure, we identified 3,331 employees who all received an individual e-mail explaining the purpose of the study and a link to the Internet-based survey. In total, 994 persons responded to our survey, giving a response rate of 30%. For both the total sample population and those responding to the survey, the mean age and gross salary were the same: 48 years old and a monthly income of €3,200 (US\$3,600), respectively (see Table 2). Within the municipal workforce, 78% are women, but among those who had utilized the right to part-time policy, 88% are women. In other words, women are somewhat overrepresented among employees who opt for WTR. The gender ratio of responses to our survey (85% female) is approximately consistent with this proportion (see Table 2).

The survey included 35 questions, covering aspects such as whether WTR improved perceived health, motives for WTR, changes in time use, and positive and negative outcomes following WTR. We also collected information through the survey on educational levels and household characteristics, including household income. Additionally, we paired the survey with information on age, gender, the extent of WTR and individual salary levels using the municipal government's register of employees' social security numbers.

Concerning expressed motivations, the survey included a number of responses for WTR, with the possibility of choosing several different alternatives. To capture other intentions, such as environmental concerns, respondents had the option of specifying this information in the comments. The free-text answers have been translated by the authors from Swedish. The assessment of environmental impacts was based on data regarding changes in salaries and time use. Because we were focusing on the environmental impacts of WTR at the micro-level (as opposed to the macro-level) we applied the results

of Nässén and Larsson (2015) as it is the sole study to date that has explored the environmental impacts of WTR among Swedish households. Applying the results of a study situated in Sweden is also motivated by recognition that the broader national context has important implications for the carbon and material intensity of lifestyles (Sorrell, Gatersleben, and Druckman 2020). Since the specific form of WTR may influence the environmental outcomes (King and van den Bergh 2017), we also compared the changes in time use between respondents who opted for shorter working days with those working fewer days per week. For quality-of-life and social inequality issues, we used a combination of survey answers in which we asked about perceived positive and negative changes following WTR together with employment records concerning salary levels.

To analyze how the outcomes of the policy differ across different socioeconomic groups, we categorized respondents according to the Swedish Socioeconomic Index (Statistics Sweden 2017). These socioeconomic categories are based on the type of work and position which, in turn, is closely linked to income and educational levels. The three categories are “manual workers,” “low/medium-level white-collar,” and “high-level white-collar.” Typical occupations found in our sample include assistant nurses and personal assistants (manual workers), teachers and administrators (low/medium-level white-collar), and managers and urban planners (high-level white-collar).

To gain a deeper understanding of various positive and negative outcomes of WTR, we used an ordinal logistic regression methodology. In addition to socioeconomic groups, demographic variables (age and gender), and living with a partner and having children (dichotomous variable) are included. We also examined the effects of the extent and form of the WTR. The extent of the reduction in working

hours is presented as a percentage compared to that of full-time (e.g., working at 80% of full-time equals a reduction of working hours by 20%). The outcomes of different WTR forms are analyzed comparing those working shorter days with those working fewer days per week.

## Results

We begin to examine the results by summarizing the demographic and socioeconomic characteristics of the respondents (see Table 2). As noted above, the mean age of the respondents is 48, just slightly older than the average municipal employee in Gothenburg. With respect to the division of socioeconomic categories, 28% are manual workers, 46% hold white-collar jobs at a low/medium level, and 26% at a high-level. In contrast to Sweden as a whole, two particular aspects stand out. First, compared to 26% of the total Swedish labor force holding a university degree (Statistics Sweden 2018a), individuals within the two white-collar categories had a very high level of education while the manual workers had a lower percentage than the average resident of Sweden. Second, the individual monthly gross salary levels were relatively low to average, compared to the national mean of €3,500 (Statistics Sweden 2020) and only the high-level white-collar workers had salaries above the national mean for the total working population. Even when factoring in household income, the earnings were still comparatively low to average. Thus, our results can be contrasted against the claims made by Strunz and Schindler (2018) and Sorrell, Gatersleben, and Druckman (2020) that WTR is predominately an option for high-income earners, showing that many of the respondents who chose the option to work less in our case are on the spectrum of low to average income.

**Table 2.** Descriptive information for the socioeconomic categories.

Factors	Indicators	Total sample	Manual workers	Low/medium-level white-collar	High-level white-collar
Sociodemographic	Mean age	48	48	49	46
	Gender	Women 85%	Women 85%	Women 88%	Women 81%
	Holds a university degree	65%	18% <sup>b,c</sup>	80% <sup>a,f</sup>	90% <sup>a,e</sup>
Structure of WTR	Mean working time after WTR	80%	79%	81%	82%
	Shorter working days	28%	25% <sup>f</sup>	24% <sup>c</sup>	38% <sup>d,b</sup>
	Fewer working days per week	72%	75% <sup>f</sup>	76% <sup>c</sup>	62% <sup>d,b</sup>
	Considers WTR as a permanent solution	71%	76%	73%	69%
Income levels	Monthly salary before WTR (€)	3,200	2,600 <sup>b,c</sup>	3,300 <sup>b,c</sup>	3,900 <sup>b,c</sup>
	Monthly salary after WTR (€)	2,600	2,000 <sup>b,c</sup>	2,700 <sup>a,c</sup>	3,200 <sup>a,b</sup>
	Number of earners per household	1.81	1.75 <sup>h,i</sup>	1.83 <sup>g</sup>	1.84 <sup>g</sup>
	Monthly household income after WTR (€)	5,300	4,100 <sup>b,c</sup>	5,500 <sup>a,f</sup>	6,300 <sup>a,e</sup>

Salary and income levels are gross. Household income includes partner gross salary and child benefits. The alternative “fewer working days per week” includes a combination of shorter working days and several days in conjunction.

One-way ANOVA with a Scheffe post-hoc test.

<sup>a</sup> $p < .001$  compared with manual workers. <sup>b</sup> $p < .001$  compared with low/medium-level white-collar. <sup>c</sup> $p < .001$  compared with high-level white-collar. <sup>d</sup> $p < .01$  compared with manual workers. <sup>e</sup> $p < .01$  compared with low/medium-level white-collar. <sup>f</sup> $p < .01$  compared with high-level white-collar. <sup>g</sup> $p < .05$  compared with manual workers. <sup>h</sup> $p < .05$  compared with low/medium-level white-collar. <sup>i</sup> $p < .05$  compared with high-level white-collar

Since 88% of those reducing their working time are women, our findings confirm the tendency that females are likely to reduce their working hours more frequently than their male counterparts. Given that the Swedish municipal sector is generally female dominated (78%; Swedish Association of Local Authorities and Regions 2019), that occupations found among the respondents are commonly held by women (Statistics Sweden 2018b), and that part-time work is highly gendered with women being more often in part-time jobs than men (De Spiegelaere and Piasna 2017), the uneven gender distribution is not unexpected. Another way to view this situation is that the gender distribution is likely a consequence of these factors. The results concerning salary levels should also be interpreted against the particular context of the case, as salaries tend to be lower in the public sector compared to the private sector.

### **Key motive for working less: coping with physically and mentally demanding work**

Table 3 shows that several of the motives for a reduction in working hours correspond to previous findings in the WTR literature such as a desire for having more time for friends, family, and leisure activities. It is also probable that the reasons for WTR shift during the course of a lifetime, for example younger parents are more likely to want to spend more time with their children and give this as a reason for working less. However, further investigation of this issue is beyond the scope of this article.

What is noteworthy is the perception that full-time work is considered too physically or mentally demanding, particularly for manual workers. Coupled with the fact that the Swedish municipal sector has in recent years increasingly implemented new public management strategies and raised productivity expectations, leading to increased workload

and less time for performing tasks (Björk, Larsson, and Lundberg 2020), the characteristics of the specific occupations may result in a higher propensity for work-related physical and mental issues. This observation suggests that there may be structural factors related to the workplace environment that can shape the motives for WTR. In our case, particularly for manual workers, WTR could thus be interpreted as a coping mechanism due to unfavorable working conditions.

Similarly, in the free-text answers, several respondents emphasized that the challenging physical and/or mental nature of the work was a central reason for WTR. One of our respondents remarked, “This work is so demanding – physically and mentally – that I cannot cope with working full-time” (Female assistant nurse, age 62) and another noted that, “Now I am working part-time because I don’t have the energy for full-time” (Female manager, age 61). Some respondents also highlighted the need to escape formal wage labor in favor of pursuing other, more meaningful, aspects of life. In the words of one individual this took the form of trying “[t]o avoid the feeling of being in the rat race” (Male support assistant, age 43) and for another, “Work is modern slavery. I would rather have a purposeful life than to [just] work” (Male transport planner, age 29).

Based on the expressed motives, WTR can be seen as a process of downshifting rather than voluntary simplicity. This distinction is due to the fact that the reasons for WTR centered on achieving a more balanced life by devoting more time to family and friends, hobbies, and so forth rather than pursuing a strong environmental ethos. Although most of the respondents had not reduced their working time out of environmental concerns, a few of them considered working less as a strategy aligned with voluntary simplicity. One municipal employee remarked that she wanted “[t]o live more sustainably, to repair clothing and other belongings, to

**Table 3.** Motives for WTR.

	Total sample (%)	Manual workers (%)	Low/medium-level white-collar (%)	High-level white-collar (%)
More time with children living at home	54	44 <sup>h,c</sup>	55 <sup>g</sup>	64 <sup>a</sup>
More time to oneself	52	62 <sup>e,f</sup>	48 <sup>d</sup>	48 <sup>d</sup>
Full-time work is too mentally demanding	52	58 <sup>c</sup>	59	33 <sup>a,b</sup>
Managing all household work	32	37	31	27
Full-time work is too physically demanding	31	49 <sup>b,c</sup>	33 <sup>a,c</sup>	9 <sup>a,b</sup>
Caring for adult relatives	15	22 <sup>f</sup>	15	9 <sup>d</sup>
Studies	10	10	12 <sup>j</sup>	5 <sup>h</sup>
Societal engagement	9	11	6	11
Other part-time work/starting or running own business	9	11	9	7

One-way ANOVA with a Scheffe post-hoc test.

Proportions of individuals who agree with the statements, consisting of those who respond with a 4 or 5 on a 5-point Likert scale ranging from “not important at all” (1) to “very important” (5).

<sup>a</sup> $p < .001$  compared with manual workers. <sup>b</sup> $p < .001$  compared with low/medium-level white-collar. <sup>c</sup> $p < .001$  compared with high-level white-collar. <sup>d</sup> $p < .01$  compared with manual workers. <sup>e</sup> $p < .01$  compared with low/medium-level white-collar. <sup>f</sup> $p < .01$  compared with high-level white-collar. <sup>g</sup> $p < .05$  compared with manual workers. <sup>h</sup> $p < .05$  compared with low/medium-level white-collar. <sup>i</sup> $p < .05$  compared with high-level white-collar.

consume less” (Female student support staff, age 32) and another respondent noted that she was motivated “[o]ut of environmental concerns, to reduce my ability to consume by having less income” (Female project leader, age 45).

### Reductions in environmental impact

By using survey data on income and timeuse changes, we are able to offer indicative estimates of the environmental impacts of the WTR policy. Average work time was reduced by approximately 20% across the different socioeconomic categories. Under the assumption that most of this channels into lower consumption, and applying the results from Nässén and Larsson (2015), this would suggest a 15% reduction in personal carbon footprint. Many factors can, however, influence the environmental outcome. For example, if one person decreases work time, then a partner might increase work time and income as a result. Further, on a societal level, some of the reduction in working hours for one employee may result in increased work time and consumption for other employees, thus eroding some of the environmental benefits of WTR (Larsson, Nässén, and Lundberg 2020).

Concerning the time effect, shown in Table 4, the results are similar between the socioeconomic groups and most of the respondents stated that they spend more time on activities such as relaxation/sleeping, exercising, and socializing with family and friends, which have been found to have low carbon intensity (Druckman et al. 2012; Nässén and Larsson 2015). A noteworthy difference can be found concerning the form of WTR, as those who work fewer days per week report that they spend more than twice the amount of time on short holiday trips compared to those working shorter days. This is relevant from an environmental impact perspective since such trips often involve car use, and perhaps also air travel (Sorrell, Gatersleben, and Druckman 2020). However, the lower incomes from

WTR decrease the possibilities to make costly weekend trips, say to distant European cities. Nevertheless, this is a potential rebound effect in relation to the original environmental benefit from the income effect (Nässén and Larsson 2015).

Overall, the time use data suggest that the right to part-time policy potentially reduced environmental impacts for most people, but it is difficult to draw any definitive conclusions regarding the aggregate or comprehensive dimensions of this effect as we do not have data on changes in actual consumption patterns following the reduction in working hours.

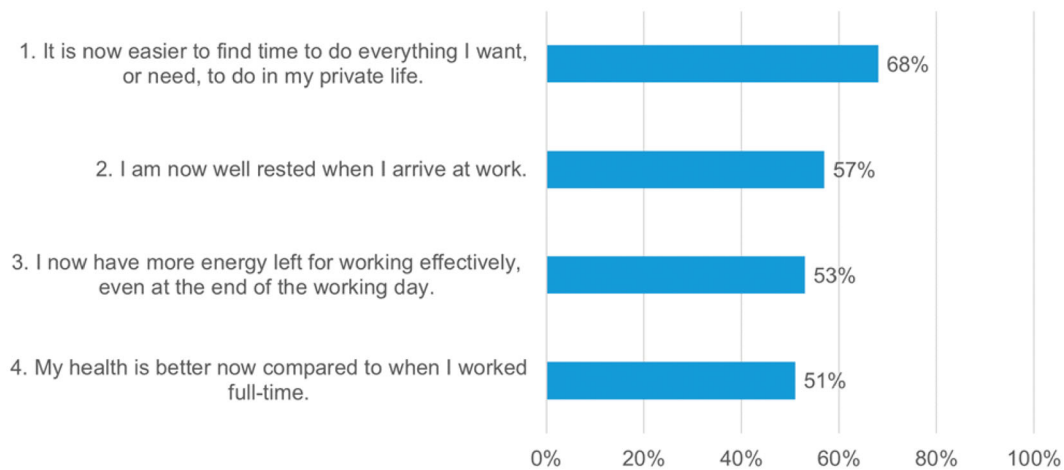
### Improvements in quality of life

We start our analysis by examining how common it is to experience quality-of-life improvements and then conduct a deeper analysis of these aspects regarding differences based on socioeconomic categorization, demographics, and extent and form of WTR. Our quantitative analysis regarding respondents’ experience of positive outcomes (Figure 1) shows that a majority perceived that working fewer hours resulted in gains in time affluence, energy levels, and health. Quality of life is also linked to how people spend their time and in Table 4 it can be seen that respondents working part-time spent more time with family and friends and on exercising, all of which are activities that have been found to be beneficial for life satisfaction (Killingsworth and Gilbert 2010). Additionally, the positive aspects of reduced working time are further illustrated by the fact that around 70% of our respondents viewed working part-time to be a permanent solution for them (see Table 2). These quality of life improvements can be further exemplified by some of the free-text answers such as, “I am feeling considerably better working part-time” (Female health educator, age 36) and “[Working less] has improved the quality of life” (Male support assistant, age 64).

**Table 4.** Changes in time use after reducing working hours.

Time use categories	Total sample			Shorter working days			Fewer days per week		
	More time (%)	Unchanged (%)	Less time (%)	More time (%)	Unchanged (%)	Less time (%)	More time (%)	Unchanged (%)	Less time (%)
Family	83	17	0	87	12	1	80	19	1
Sleep/recovery	60	36	4	46	51	3	66	30	4
Exercise	54	42	4	47	47	6	54	40	6
Household chores	48	49	3	51	47	2	48	50	2
Friends	44	53	3	33	62	5	48	50	2
Other hobbies	43	53	4	31	65	4	48	48	4
Culture	39	56	5	25	70	5	45	51	4
Going on short holiday trips	32	64	4	17	78	5	38	59	3
TV/computer	12	80	8	7	84	9	15	78	7
Societal engagements	11	82	7	9	84	7	12	81	7
Shopping	10	79	11	6	80	14	11	78	11

The changes in time use for the total sample are presented at an aggregated level, as the post-hoc test showed no statistically significant differences between the socioeconomic categories.



**Figure 1.** Prevalence of positive outcomes from WTR. Proportions of individuals who agree with the statements, consisting of those who respond with a 4 or 5 on a 5-point Likert scale ranging from “do not agree at all” (1) to “agree completely” (5).

**Table 5.** Ordinal logistic regressions of positive outcomes from WTR.

	More time in private life OR (95% CI)	More rested when arriving at work OR (95% CI)	More energy at work OR (95% CI)	Better health OR (95% CI)
Socioeconomic category (ref. High-level white-collar)				
Manual workers	1.04 (.76–1.44)	1.49* (1.08–2.06)	1.32 (.96–1.83)	1.33 (.96–1.85)
Low/medium-level white-collar	1.14 (.85–1.52)	1.30 (.98–1.74)	1.16 (.87–1.55)	1.26 (.94–1.69)
Gender (woman, ref. man)	1.12 (.81–1.56)	.92 (.66–1.27)	1.14 (.82–1.58)	1.01 (.73–1.41)
Living with partner	1.01 (.78–1.30)	1.15 (.89–1.47)	1.00 (.78–1.28)	.97 (.75–1.24)
Living with children	.68** (.51–.91)	.57*** (.43–.76)	.74* (.55–.98)	.53*** (.39–.70)
Age (years)	1.00 (.98–1.01)	1.00 (.99–1.02)	1.00 (.98–1.01)	.99* (.97–1.00)
Work time reduction (%)	1.02** (1.01–1.03)	1.03*** (1.01–1.04)	1.03*** (1.01–1.04)	1.01* (1.00–1.02)
Shorter working days (ref. fewer days per week)	.89 (.67–1.17)	.65** (.50–.86)	1.27 (.97–1.67)	.91 (.69–1.20)
N	949	948	935	907

OR: Odds ratio (exp. of regression coefficient); CI: confidence interval.

Dependent outcome variables are 5-graded Likert scales. Coefficients presented as odds ratios.

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$ .

Table 5 highlights the results of ordinal logistic regressions with the four positive outcomes as dependent variables (five graded Likert scales). To enable easier interpretation, the results are presented as odds ratios (OR):  $\exp(B_i)$  of the regression coefficients  $B_i$ . The ORs can be interpreted so that for each unit increase in an independent variable, an  $OR > 1$  reflects an increasing probability of being at a higher level on the dependent variable (in this case, agreeing more with the statements). An  $OR < 1$  reflects a decreasing probability of being at a higher level on the dependent variable. For example, an OR of 1.1 means that the odds of an outcome are 10% higher in the assessed group than in the reference group.

Socioeconomic category and gender were not significantly associated with the positive outcomes, the exception being that manual workers were more likely to achieve a higher outcome for “More rested when arriving at work” ( $p < .05$ ) when compared to the high-level white-collar category. Living with children, however, was associated with a lower probability of all positive outcomes compared to not living with children ( $p < .05$ ). As may be expected, a larger reduction of working time (as a percentage of full-time employment) was associated with larger

effects for all four of the positive outcomes as compared to smaller reductions of work time ( $p < .05$ ). The realization of WTR in the form of shorter working days as opposed to fewer working days was associated with a lower outcome for “More rested when arriving at work” ( $OR .65$ ,  $p < .01$ ), but no effects were found for the other three outcomes.

### Increased financial hardships and work intensification

Below are quantitative analyses of the respondents’ experiences of negative outcomes of WTR that includes two aspects related to financial hardships and two aspects concerning work intensification as it has been previously found that a prevalent negative outcome of WTR is work intensification and increased stress at the workplace (Hayden 2006). We then proceeded to run ordinal logistic regressions on these four aspects regarding differences based on socioeconomic categorization, demographics, and extent and form of WTR. Finally, we provide some insights concerning whether or not the right to part-time policy leads to increased work sharing.

Figure 2 shows that the most common negative outcome is to have worries about future retirement income which can be linked to the fact that in Sweden pensions are predominately based on the income earned throughout an individual's whole working life. A third of the respondents also found increasing problems with making ends meet after the WTR. We additionally found that the negative outcomes of WTR involve work intensification as almost 20% of our respondents indicated that they had to work harder and endure more stress during work hours. Illustrations of the drawbacks of part-time work concerning financial hardships and work intensification are found in the free-text answers, with statements such as, "The only drawback with working part-time is that one receives a very poor salary, I can barely make ends meet" (Female assistant nurse, age 26) and "Working part-time means that my working tasks need to be performed in a shorter amount of time because my workload remained the same even though I now work less" (Female, human-resources specialist, age 48).

Table 6 shows the results of ordinal logistic regressions with four negative outcomes as dependent variables (five graded Likert scales). There are

large differences in the negative outcomes for the different socioeconomic categories. When compared to the reference category high-level white-collar workers, manual workers who reduced working time were much more likely to experience negative outcomes related to their economic situation. These concerns were expressed in terms of "worries about retirement income" (OR 2.36,  $p < .001$ ) and "Problems making ends meet" (OR 2.04,  $p < .001$ ). We also uncovered similar, but weaker, effects for low/medium-level white-collar workers. This finding is not unexpected since the salaries for manual workers and low/medium-level white-collar workers are 30% and 15% lower, respectively, than for the high-level white-collar workers. Yet, manual workers were much less likely to experience negative outcomes related to their work situation that were expressed as "Must work harder" (OR .30,  $p < .001$ ) and "Feel more stress" (OR .49,  $p < .001$ ). Similar but weaker effects were found when comparing the categories low/medium-level white-collar with high-level white-collar. One explanation for this could be that high-level white-collar workers tend to have goal-oriented responsibilities which are relatively hard to reduce in proportion with a reduction in

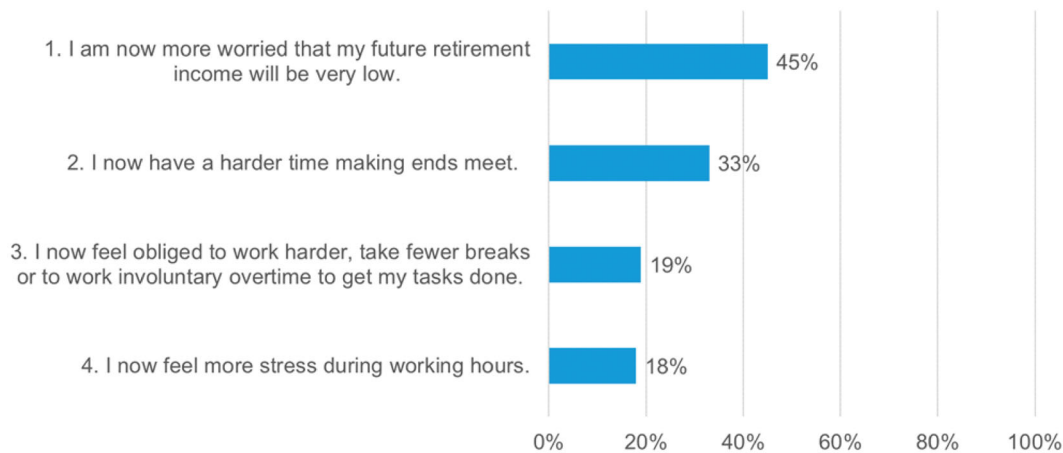


Figure 2. Prevalence of negative outcomes from WTR. Proportions of individuals who agree with the statements, consisting of those who respond with a 4 or 5 on a 5-point Likert scale ranging from "do not agree at all" (1) to "agree completely" (5).

Table 6. Ordinal logistic regressions of negative outcomes from WTR.

	Worries about retirement income OR (95% CI)	Problems making ends meet OR (95% CI)	Must work harder OR (95% CI)	Feel more stress OR (95% CI)
Socioeconomic category (ref. High-level white-collar)				
Manual workers	2.36*** (1.72–3.24)	2.04*** (1.49–2.81)	.30*** (.21–.42)	.49*** (.35–.67)
Low/medium-level white-collar	1.43* (1.08–1.89)	1.30 (.98–1.72)	.60*** (.45–.79)	.67** (.50–.89)
Gender (woman, ref. man)	2.08*** (1.50–2.87)	1.28 (.92–1.77)	1.36 (.95–1.93)	1.93*** (1.37–2.72)
Living with partner	.83 (.65–1.06)	.73* (.57–.93)	.96 (.74–1.25)	1.23 (.95–1.58)
Living with children	1.03 (.78–1.36)	.99 (.75–1.31)	1.36* (1.01–1.85)	1.30 (.98–1.74)
Age (years)	1.01* (1.00–1.03)	.98** (.97–1.00)	1.01 (.99–1.02)	.99 (.98–1.01)
Work-time reduction (%)	1.00 (.99–1.01)	1.02** (1.01–1.03)	1.01* (1.00–1.02)	1.00 (.98–1.01)
Shorter working days (ref. fewer days per week)	1.10 (.84–1.44)	1.05 (.80–1.38)	1.60** (1.21–2.11)	1.22 (.93–1.60)
N	959	950	943	952

OR: Odds ratio (exp. of regression coefficient); CI: confidence interval.

Dependent outcome variables are 5-graded Likert scales. Coefficients presented as odds ratios.

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$ .

working hours while manual jobs more often are based on working a specific number of hours. Moreover, women who reduced working time were clearly more likely to experience both “Worries about retirement income” (OR 2.08,  $p < .001$ ) and “Feel more stress” (OR 1.93,  $p < .001$ ) than their male counterparts. The results also show WTR in the form of shorter working days, as opposed to fewer working days per week, was associated with an increase of the experience “Must work harder” (OR 1.60,  $p < .01$ ). The reason why shorter days tend to be associated with higher work intensification could be that this form of WTR opens up opportunities for squeezing in the same amount of workload as for full-time work while having additional full days off work makes it more obvious that some tasks cannot be done (De Spiegelaere and Piasna 2017).

Appendix 1 provides tests of parallel lines for the ordinal regressions of outcome variables in Tables 5 and 6. Six of these tests are not significant, but the tests for “Worries about retirement income” and “Problems making ends meet” are significant at the 5% level indicating that the odds ratios are not the same across different cut-points as is the assumption behind the ordinal model. For these two outcome variables we explore the relationships further with additional binary logit regressions at different cut-points (Scott, Goldberg, and Mayo 1997). Tables A1.2 and A1.3 show that the largest differences in cut-point specific coefficients are found for the socio-economic categories. The cut-point specific results show that the effects from these variables on the two negative outcomes become stronger with higher cut-points, meaning that, compared to the results from the ordinal regression, they have larger effects on the strongest degrees of negative outcomes. The tests of parallel lines become not significant if we exclude these variables from the ordinal regressions.

Although our analysis shows that, on an individual level, WTR leads to an increased sense of financial hardships among lower-income workers, a reduction in working hours could provide more employment opportunities for people outside the labor market (Larsson, Nässén, and Lundberg 2020), thereby lowering income inequalities at a societal level. In our case, however, only a small minority of the respondents stated that additional people were employed or that colleagues increased their working time to cover for the WTR (see Table A2.1). Furthermore, among line managers working for the Gothenburg municipal government, recruiting new staff was not a common strategy to cover for those working part-time (Larsson et al. 2021). Taken together, these results indicate that the right to part-time policy did not have a strong effect on creating

additional employment opportunities for direct replacement.

## Conclusion

This article explores how motivations and socioecological outcomes vary across different socioeconomic groups when WTR is coupled with a proportional salary cut. Our analysis was based on employment records and a survey of municipal employees under full-time contracts who utilized the City of Gothenburg’s “right to part-time” policy. With regards to motives, we found that two key reasons for the respondents to reduce their working hours were that the work itself was mentally or physically demanding. These expressed reasons were particularly prevalent among manual workers who also have relatively low earnings. A question can thus be raised regarding the extent to which WTR was truly “voluntary” for some of the respondents because their decision to work less could be seen as a coping mechanism related to poor working conditions (Björk, Larsson, and Lundberg 2020). Yet, the survey results also illustrated that among lower-income groups working less can enable gains in quality of life through improved health, increased time affluence, and energy, as well as more time spent on strengthening social ties. These positive outcomes furthermore hold when controlling for gender and socioeconomic category. The latter finding is noteworthy as it runs counter to what Strunz and Schindler (2018) have argued, namely that due to financial disparities lower-income workers are not likely to gain much from WTR compared to higher-income workers. Instead our results show that in circumstances where the work in itself is physically or mentally demanding, reducing work time and income can contribute to improved quality of life, even among occupational groups that have relatively low salaries. Furthermore, our analysis indicates a possible reduction in environmental impacts – through decreased income and more time spent on relatively low-carbon activities. Among those working fewer days, however, more time was also spent on holiday trips which suggests a potential rebound effect, particularly if it involves carbon-intensive modes of transport such as air travel (Sorrell, Gatersleben, and Druckman 2020).

We found that the negative outcomes of WTR, especially for manual workers, were increased concerns over making ends meet and retirement-income levels. At the same time, Sweden has a comparatively extensive welfare system where the level of income needed to have adequate quality of life is comparatively less important when compared with countries that have less expansive systems of welfare

services (Andersson et al. 2014). In other words, in contexts where access to basic forms of public assistance is highly dependent on income levels, issues of financial hardships and WTR would most likely be even more significant. Nevertheless, manual workers were much less likely to experience issues of work intensification compared to high-level white-collar workers. While previous studies have shown that the intensification of work and stress can be linked to the extent WTR is matched by additional employment and the employees' ability to influence how their working hours are organized (De Spiegelaere and Piasna 2017), our results suggest that gender and the type of occupation can also influence the magnitude of work intensification. Moreover, we found that the form of WTR shapes the outcomes, where working shorter days as opposed to working fewer days exacerbated work intensification and reduced the feeling of being well rested.

Concerning WTR policies, when they are in the shape of an individual option, as in our case, women are more likely to reduce their working time and this could lead to increased gender inequality (Arntsen, Philp, and Donegani 2018) as opposed to a collective format which may result in greater equality in the labor market and redistribution of care work in households (De Spiegelaere and Piasna 2017). Our case of the City of Gothenburg employs more women than men, which partially explains the high number of women who reduced their working time. Nevertheless, a disproportionately larger share of women utilized the right to work less which, combined with the observation that men perceived a lower degree of financial hardship and work intensification, raises concerns over gender equality. Even so, when a right to part-time work is coupled with a right to full-time employment the result can be improved gender equality as these combined policies allow women who previously worked part-time *involuntarily* to secure their right to work full-time and provide structural support for more *voluntary* part-time work among women as well as men. There are nonetheless gender norms in both households and workplaces that are likely to influence the uptake of WTR and therefore wider societal changes are also needed to alleviate gender inequalities concerning work and care patterns.

This study can provide insights concerning different WTR-policy designs and their socioecological outcomes. The results confirm previously highlighted issues that WTR with a proportional salary reduction runs the risk of exacerbating financial hardships between different socioeconomic groups (Strunz and Schindler 2018; Coote, Harper, and Stirling 2021). Although earlier studies have argued that, at a societal level, WTR can reduce inequality by distributing

current levels of working time among more employees (e.g., Fitzgerald, Schor, and Jorgenson 2018; Gunderson 2019), our survey findings suggest that the right to part-time policy did not provide new job opportunities through direct replacement. This outcome is possibly due to increased energy to work effectively throughout the whole working day as a result of WTR, thus leading to improvements in labor productivity. Another reason may also be that managers consider it costly and difficult to find replacements when the reduction of working hours is small for each employee (e.g., 10% of full time).

We need to acknowledge that the potential broader employment effects, in addition to direct replacement at the studied workplaces, cannot be captured by our empirical material. To draw a more comprehensive conclusion on the total employment effects of the WTR policy would require a different type of empirical data and analysis. Nevertheless, even if additional people were hired, lower-income workers who reduce their working hours are still likely to experience economic difficulties. To counteract the possible increase in financial hardship for low-income earners, our findings align with the idea of WTR with a retained salary for low-income earners (Levy 2017; Parrique 2019) as opposed to a proportional reduction of work hours and income. This could be funded in various ways. A few examples include increased productivity gains enabled through more healthy and motivated employees as a result of working fewer hours (Stronge et al. 2019), redistribution of profits from owners of capital to labor (Kallis et al. 2013), state subsidies (Parrique 2019), or a combination of all of these alternatives. Moreover, from the perspective of quality of life, our findings suggest that working fewer days per week is more beneficial compared to shorter days, giving support to a four-day working week as proposed by, for example, Coote, Harper, and Stirling (2021). At the same time, we found that working fewer days may result in a smaller reduction of environmental impacts compared with shorter days. There are potential tradeoffs between social and environmental outcomes due to different policy designs and these options should be carefully considered when implementing different WTR-policy alternatives.

## Notes

1. Some scholars even discuss WTR as a triple or multiple dividend policy that in addition to improving quality of life and lowering environmental impacts can enhance social equity by redistributing working hours to informal and voluntary social engagement (Buhl and Acosta 2016) as well as reducing unemployment through work-sharing (Schor and Jorgenson 2019).

2. In the WTR literature, the terms *scale* and *composition* are sometimes used instead to discuss how working hours shape environmental outcomes. The scale effect refers to the impact working hours have on the size of the economy through GDP growth while the composition effect describes the impact on environmental pressures through how working time influences time use and consumption patterns (Fitzgerald, Schor, and Jorgenson 2018). The notion is that people working longer hours are more likely to adopt environmentally damaging activities due to time scarcity (Knight, Rosa, and Schor 2013).
3. The practice of part-time work can be traced back to the late 1970s when Sweden implemented the legal right for individuals with children under the age of eight to reduce their working hours (Larsson 2012). In Sweden, the uptake of part-time work has historically, and continues to be, particularly common at female-dominated workplaces (Björk, Larsson, and Lundberg 2020), such as nursing homes.
4. Part-time work, and its consequences for gender equality, has mainly been problematized by women's movements. This criticism is not only coming from gender equality ideas, where part-time work is considered detrimental for women's income and career opportunities, but it is also based on the strong Swedish norm that everyone should work full-time (Larsson 2012; Björk, Larsson, and Lundberg 2020).

## Acknowledgments

We thank Karin Bradley, Mikael Klintman, Miklós Antal, and Sachiko Ishihara, as well as the three anonymous reviewers, who all provided valuable feedback on previous versions of this article.

## Disclosure statement

No potential conflict of interest was reported by the author(s).

## Funding

The work on which this article is based was supported by Mistra (Swedish Foundation for Strategic Environmental Research) through the research program Mistra Sustainable Consumption.

## ORCID

Ola Persson  <http://orcid.org/0000-0001-9067-0056>  
 Jörgen Larsson  <http://orcid.org/0000-0002-7376-5499>  
 Jonas Nässén  <http://orcid.org/0000-0002-1564-8585>

## References

- Aidar, L., and P. Daniels. 2020. "A Critical Review of Voluntary Simplicity: Definitional Inconsistencies, Movement Identity and Direction for Future Research." *The Social Science Journal*, published online August 10. doi:10.1080/03623319.2020.1791785.
- Albertsen, K., G. Rafnsdóttir, A. Grimsó, K. Tómasson, and K. Kauppinen. 2008. "Workhours and Worklife Balance." *Scandinavian Journal of Work, Environment and Health* 5 (Supp): 14–21.
- Alexander, S. 2015. *Prosperous Decent: Crisis as Opportunity in an Age of Limits*. Melbourne: Simplicity Institute.
- Andersson, D., J. Nässén, J. Larsson, and J. Holmberg. 2014. "Greenhouse Gas Emissions and Subjective Well-Being: An Analysis of Swedish Households." *Ecological Economics* 102: 75–82. doi:10.1016/j.ecolecon.2014.03.018.
- Antal, M. 2014. "Green Goals and Full Employment: Are They Compatible?" *Ecological Economics* 107: 276–286. doi:10.1016/j.ecolecon.2014.08.014.
- Antal, M. 2018. "Post-Growth Strategies Can Be More Feasible than Techno-Fixes: Focus on Working Time." *The Anthropocene Review* 5 (3): 230–236. doi:10.1177/2053019618794212.
- Antal, M., B. Plank, J. Mokos, and D. Wiedenhofer. 2021. "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." *Environmental Research Letters* 16 (1): 013002. doi:10.1088/1748-9326/abceec.
- Arntsen, A., B. Philp, and C. Donegani. 2018. "Environmental and Societal Attitudes to Working Hours in Gendered Perspective: Patterns, Preferences and Policy." *Review of Political Economy* 30 (4): 556–572. doi:10.1080/09538259.2018.1495352.
- Björk, S., J. Larsson, and E. Lundberg. 2020. "Choosing to Work Part-Time – Combinations of Motives and the Role of Preferences and Constraints." *Scandinavian Journal of Work and Organizational Psychology* 5 (1): 1–14. doi:10.16993/sjwop.92.
- Bottazzi, P. 2019. "Work and Social-Ecological Transitions: A Critical Review of Five Contrasting Approaches." *Sustainability* 11 (14): 1–19. 3852. doi:10.3390/su1114.
- Buhl, J., and J. Acosta. 2016. "Work Less, Do Less? Working Time Reductions and Rebound Effects." *Sustainability Science* 11 (2): 261–276. doi:10.1007/s11625-015-0322-8.
- Coote, A., A. Harper, and A. Stirling. 2021. *The Case for a Four Day Week*. Cambridge: Polity Press.
- Crouch, D. 2015. "Efficiency Up, Turnover Down: Sweden Experiments with Six-Hour Working Day." *The Guardian*, September 17. <https://www.theguardian.com/world/2015/sep/17/efficiency-up-turnover-down-sweden-experiments-with-six-hour-working-day>
- De Spiegelaere, S., and A. Piasna. 2017. *The Why and How of Working Time Reduction*. Brussels: European Trade Union Institute. <https://www.etui.org/publications/guides/the-why-and-how-of-working-time-reduction>.
- Devetter, F.-X., and S. Rousseau. 2011. "Working Hours and Sustainable Development." *Review of Social Economy* 69 (3): 333–355. doi:10.1080/00346764.2011.563507.
- Druckman, A., I. Buck, B. Hayward, and T. Jackson. 2012. "Time, Gender and Carbon: A Study of the Carbon Implications of British Adults' Use of Time." *Ecological Economics* 84: 153–163. doi:10.1016/j.ecolecon.2012.09.008.
- Elgin, D. 2010. *Voluntary Simplicity: Toward a Way of Life That is Outwardly Simple, Inwardly Rich*. 2nd ed. New York: Harper Collins.
- Eurostat. 2019. *Part-Time Employment as Percentage of the Total Employment, by Sex and Age*. Luxembourg: Eurostat. <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/DDN-20190621-1>.

- Fitzgerald, J., A. Jorgenson, and B. Clark. 2015. "Energy Consumption and Working Hours: A Longitudinal Study of Developed and Developing Nations, 1990–2008." *Environmental Sociology* 1 (3): 213–223. doi:10.1080/23251042.2015.1046584.
- Fitzgerald, J., J. Schor, and A. Jorgenson. 2018. "Working Hours and Carbon Dioxide Emissions in the United States, 2007–2013." *Social Forces* 96 (4): 1851–1874. doi:10.1093/sf/soy014.
- Fremstad, A., M. Paul, and A. Underwood. 2019. "Work Hours and CO<sub>2</sub> Emissions: Evidence from U.S. Households." *Review of Political Economy* 31 (1): 42–59. doi:10.1080/09538259.2019.1592950.
- Gerold, S., and M. Nocker. 2018. "More Leisure or Higher Pay? A Mixed-Methods Study on Reducing Working Time in Austria." *Ecological Economics* 143: 27–36. doi:10.1016/j.ecolecon.2017.06.016.
- Göteborgs Stad. 2015. *Reviderat Politik Angående Frågor Om Anställning, Rörlighet Och Ledighet (Revised Policy Concerning Topics of Employment, Flexibility and Leave)*. Göteborg: Göteborgs Stad
- Göteborgs Stad. 2018. *Förmåner För Dig Som Anställd (Benefits for You as an Employee)*. Göteborg: Göteborgs Stad. <https://goteborg.se/wps/portal/start/jobb/att-arbeta-i-goteborgs/formaner-for-dig-som-anstalld>.
- Gough, I. 2017. *Heat, Greed and Human Need*. Cheltenham: Edward Elgar.
- Gundersen, R. 2019. "Work Time Reduction and Economic Democracy as Climate Change Mitigation Strategies: Or Why the Climate Needs a Renewed Labor Movement." *Journal of Environmental Studies and Sciences* 9 (1): 35–44. doi:10.1007/s13412-018-0507-4.
- Hanbury, H., C. Bader, and S. Moser. 2019. "Reducing Working Hours as a Means to Foster Low(er)-Carbon Lifestyles? An Exploratory Study on Swiss Employees." *Sustainability* 11 (7): 1–17. 2024. doi:10.3390/su1107..
- Hayden, A. 2006. "France's 35-Hour Week: Attack on Business? Win-Win Reform? Or Betrayal of Disadvantaged Workers?" *Politics & Society* 34 (4): 503–542. doi:10.1177/0032329206293645.
- Hayden, A., and J. Shandra. 2009. "Hours of Work and the Ecological Footprint of Nations: An Exploratory Analysis." *Local Environment* 14 (6): 575–600. doi:10.1080/13549830902904185.
- Kallis, G., M. Kalush, H. O' Flynn, J. Rossiter, and N. Ashford. 2013. "Friday Off: Reducing Working Hours in Europe." *Sustainability* 5 (4): 1545–1567. doi:10.3390/su5041545.
- Kasser, T., and K. Sheldon. 2009. "Time Affluence as a Path toward Personal Happiness and Ethical Business Practice: Empirical Evidence from Four Studies." *Journal of Business Ethics* 84 (S2): 243–255. doi:10.1007/s10551-008-9696-1.
- Killingsworth, M., and D. Gilbert. 2010. "A Wandering Mind is an Unhappy Mind." *Science* 330 (6006): 932. doi:10.1126/science.1192439.
- King, L., and J. van den Bergh. 2017. "Worktime Reduction as a Solution to Climate Change: Five Scenarios Compared for the UK." *Ecological Economics* 132: 124–134. doi:10.1016/j.ecolecon.2016.10.011.
- Knight, K., E. Rosa, and J. Schor. 2013. "Could Working Less Reduce Pressures on the Environment? A Cross-National Panel Analysis of OECD Countries, 1970–2007." *Global Environmental Change* 23 (4): 691–700. doi:10.1016/j.gloenvcha.2013.02.017.
- Larsson, J. 2012. *Studies in Temporal Welfare – Focusing on Time Strategies and Time Politics for Families with Small Children*. Göteborg: University of Gothenburg. <http://gupea.ub.gu.se/handle/2077/28371>.
- Larsson, J., J. Nässén, and E. Lundberg. 2020. "Work-Time Reduction for Sustainable Lifestyles." In *Routledge Handbook of Global Sustainability Governance*, edited by A. Kalfagianni, D. Fuchs, and A. Hayden, 334–347. London: Routledge.
- Larsson, J., S. Björk, E. Lundberg, J. Nässén, and O. Persson. 2021. *Om Att Kunna Välja Förkortad Arbetstid: En Hållbarhetsanalys Av Den Utvidgade Deltidsrätten Inom Göteborgs Stad (About Being Able to Choose Shortened Working Hours: A Sustainability Analysis of the Extended Part-time Right within the City of Gothenburg)*. Göteborg: Gothenburg University. [https://gupea.ub.gu.se/bitstream/2077/70071/1/gupea\\_2077\\_70071\\_1.pdf](https://gupea.ub.gu.se/bitstream/2077/70071/1/gupea_2077_70071_1.pdf)
- Lepinteur, A. 2019. "The Shorter Workweek and Worker Wellbeing: Evidence from Portugal and France." *Labour Economics* 58: 204–220. doi:10.1016/j.labeco.2018.05.010.
- Levy, A. 2017. "Prometheus Unwound: Shorter Hours for Sustainable Degrowth." In *Handbook on Growth and Sustainability*, edited by P. Victor and B. Dolter, 303–325. Cheltenham: Edward Elgar.
- Lindsay, J., R. Lane, and K. Humphery. 2020. "Everyday Life after Downshifting: Consumption, Thrift, and Inequality." *Geographical Research* 58 (3): 275–288. doi:10.1111/1745-5871.12396.
- Mallinson, D., and K. Cheng. 2021. "The Relationship between State-Level Carbon Emissions and Average Working Hours in the United States: A Replication Study Hours in the United States." *Environmental Sociology*, published online September 12. doi:10.1080/23251042.2021.1975350.
- Nässén, J., and J. Larsson. 2015. "Would Shorter Working Time Reduce Greenhouse Gas Emissions? An Analysis of Time Use and Consumption in Swedish Households." *Environment and Planning C: Government and Policy* 33 (4): 726–745. doi:10.1068/c12239.
- Oltermann, P. 2018. "28-Hour Week Gains Momentum in German Unions' Push for Flexible Rights." *The Guardian*, March 9. <https://www.theguardian.com/world/2018/mar/09/28-hour-week-gains-momentum-in-german-unions-push-for-flexible-rights>
- Parrique, T. 2019. *The Political Economy of Degrowth*. Clermont-Ferrand: Université Clermont Auvergne.
- Pullinger, M. 2014. "Working Time Reduction Policy in a Sustainable Economy: Criteria and Options for Its Design." *Ecological Economics* 103: 11–19. doi:10.1016/j.ecolecon.2014.04.009.
- Rosnick, D., and M. Weisbrot. 2007. "Are Shorter Work Hours Good for the Environment? A Comparison of U.S. and European Energy Consumption." *International Journal of Health Services* 37 (3): 405–417. doi:10.2190/D842-1505-1K86-9882.
- Sanches, S. 2005. "Sustainable Consumption à La Française? Conventional, Innovative, and Alternative Approaches to Sustainability and Consumption in France." *Sustainability: Science, Practice and Policy* 1 (1): 43–57. doi:10.1080/15487733.2005.11907964.
- Schor, J. 2005. "Sustainable Consumption and Worktime Reduction." *Journal of Industrial Ecology* 9 (1–2): 37–50. doi:10.1162/1088198054084581.



**Table A1.3.** Ordinal and cut-point specific binary regression coefficients for Neg. 2: “Problem making ends meet” (scale 1–5).

	Ordinal1–5	Binary1/2–5	Binary1–2/3–4	Binary1–3/4–5	Binary1–4/5
Socioeconomic category (ref. High-level white-collar)					
Manual workers	.715***	.511*	.588**	.934***	1.049***
Low/medium-level white-collar	0.260	0.188	0.068	.378*	.751**
Gender (woman, ref. man)	0.243	–0.046	.391*	.449*	0.338
Living with partner	–.317*	–0.162	–.301*	–.412**	–.432*
Living with children	–0.012	0.080	0.018	0.013	–0.110
Age (years)	–.017**	–0.007	–0.006	–.025**	–.040***
Work time reduction (%)	.017**	.016*	.019**	.017**	.017*
Shorter working days (ref. fewer days)	0.051	–0.171	–0.081	0.188	0.314

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$ .

## Appendix 2. Employment outcomes

**Table A2.1.** Proportions of individuals who agree with the statements, consisting of those who respond with a 4 or 5 on a 5-point Likert scale ranging from “do not agree at all” (1) to “agree completely” (5).

	Total sample (%)	Manual workers (%)	Low/medium-level white-collar (%)	High-level white-collar (%)
An additional employee was recruited when I started working part-time	13	10 <sup>b</sup>	20 <sup>a,c</sup>	6 <sup>b</sup>
Colleagues increased their working time in conjunction with my reduction of working hours	5	6	5	4

One-way ANOVA with a Scheffe post-hoc test.

<sup>a</sup> $p < .001$  compared with manual workers. <sup>b</sup> $p < .001$  compared with low/medium-level white-collar. <sup>c</sup> $p < .001$  compared with high-level white-collar.