



Work less, feel better? – Evidence on working time changes and employee well- being in Germany

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A 4 Day Work Week Could Help Close the Gender Gap. Here's How

Posted March 1, 2023

SOCIETY | GERMANY

Germany: Majority thinks 4-day work week is not a good idea

Timothy Jones
04/25/2023

WORK

Workers report a 4-day workweek improves health, finances and relationships: It 'simply makes you happy'

Published Fri, Feb 24 2023 11:02 AM EST • Updated Fri, Feb 24 2023 2:48 PM EST

The Four-Day Week Effect

Researchers surveyed workers before and after the trial

	Burnout	Stress	Sleep difficulties
Increase	22%	13%	15%
Decrease	71	39	40
No change	7	48	45

Source: 4-Day Week Global
Note: UK four-day week pilot results, June-December 2022

Bloomberg



Reasons for working time changes

Recovery

Health issues

Required for tasks

Family and Child care

Further trainings

should not be invested in work

More free time

Less workload





**Are changes in working time
related to employee well-being?**



Working time and health

Evidence based on correlations

- Long working hours are related to various adverse physical and mental health outcomes (for meta studies: Kivimäki et al. 2015; Sparks et al. 1997; Van Der Hulst 2003)
 - long working hours relate to poor mental health and increased mortality
 - associated with cardiovascular disease, diabetes, disability retirement and poor physical and mental health
- No ideal number of working hours with regard to employee well-being
 - 8 hours/week sufficient (Kamerāde et al. 2020)
 - Might be driven by unobserved heterogeneity or reverse causality (working time endogenous)



Working time changes and health: Causal Evidence

Exploiting exogenous variation in working time due to policy reforms

- Reducing working hours reduce unhealthy behaviors, such as smoking or drinking and increase regular exercising (South Korea, Ahn 2016)
- increase in life satisfaction among employees (South Korea/Japan: Hamermesh et al. 2017)
- Decreasing working hours improve job and leisure satisfaction. (France/Portugal: Lepinteur 2019)



Working time changes and health: Heterogenous effects

Socio-economic groups

- **Gender: Women benefit more than men** (Ahn 2016; Berniell und Bietenbeck 2020; Cygan-Rehm und Wunder 2018)
- **Occupations, physical job demands: Blue-collar benefit more than white-collar** (Berniell und Bietenbeck 2020)

Other factors

- **Individuals who worked overtime before are noticeably happier after the reduction** (Hamermesh et al. 2017)
- **Satisfaction with working time and working conditions more important than satisfaction with earnings** (Lepinteur 2019)



Causal Evidence for Germany

Variation in working hours (public sector) (Cygan-Rehm und Wunder 2018)

- Exploiting variation in working hours over time (1985-2014) across federal states and employee groups (IV-Fixed-effects)
- Results: increase in working time negatively impacts health (i.e. lower satisfaction with own health, a decline in self-assessed health, higher number of doctor visits)
- Heterogenous effects: gender, # of children in household

→ remain unclear which role flexible working time arrangements play



FWA and health

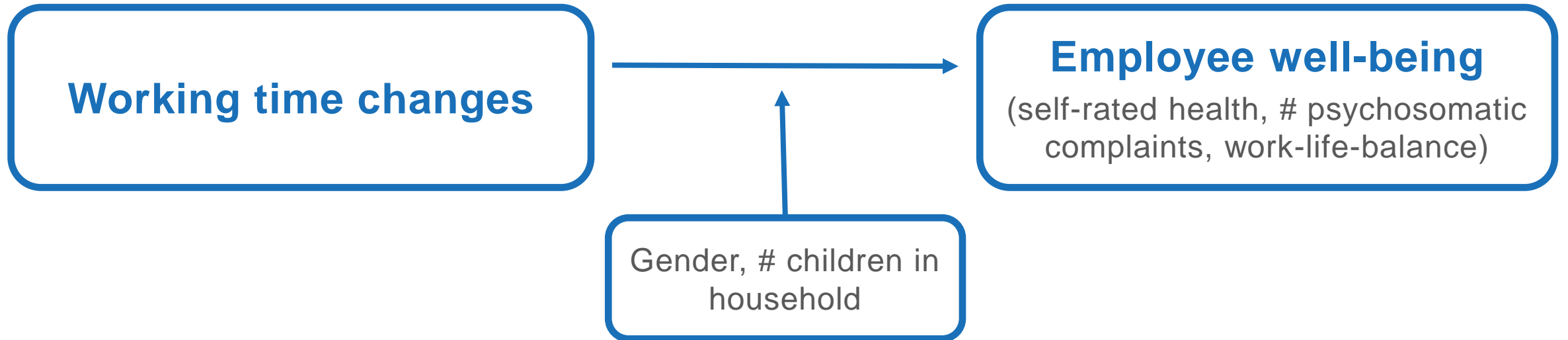
Flexible working time arrangements shown

- Positively with job and leisure satisfaction (Wheatley 2017)
- Associated with better physical health, reduced absenteeism, and fewer somatic symptoms (meta review: Shifrin und Michel 2021)
- planning and scheduling autonomy is important in the context of work-home-balance (Lott 2020)



Paper objective

A) Are changes in working time related to employee well-being?

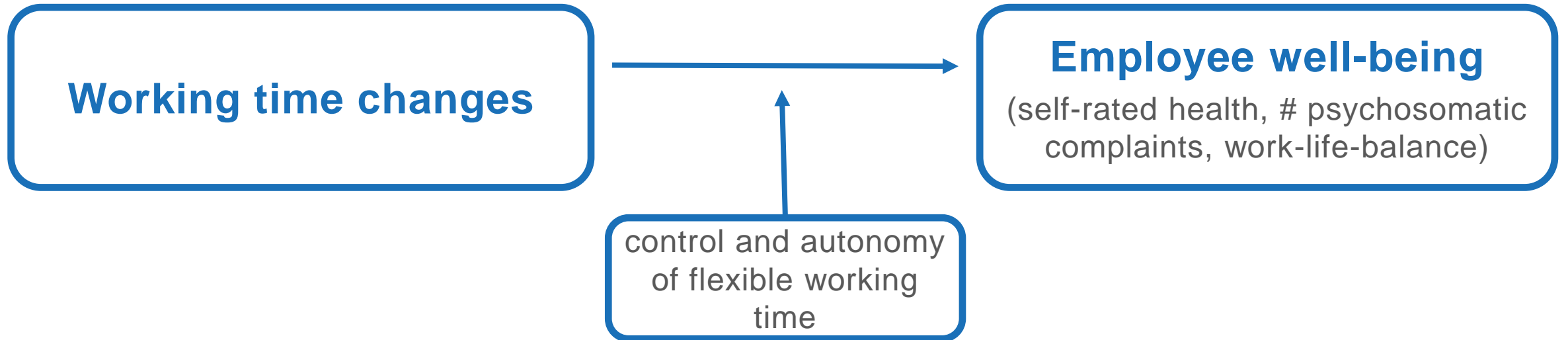


B) Heterogenous effects across different groups?



Paper objective

A) Are changes in working time related to employee well-being?



C) What correlations can be seen if autonomy of flexible working time, are included in the model?



Data: Sample

- **Sample:** BAuA Working Time Survey (2015, 2017, 2019, 2021)
restricted to: dependent employees aged 15 to 65 years and working at least fulltime (35 hours per week) in a paid job at the first observation and at least two time in the survey.
N=18,637 person-year observations with 7,254 employees
- **Method:** Pooled OLS and fixed-effects
allows to explore intra-individual differences, thus accounting for time-constant unobserved heterogeneity



Data: Indicators of working hours

- **average actual working hours** : average number of hours actually worked per week, including regular overtime work, extra work, extended availability, etc.



Data: Indicators of well-being (outcome)

- **Self-reported health status:** measuring the overall perception of the respondent's physical and mental health (ranging from 0 – very good, to 4 – very bad)
- **Psychosomatic complaints:** a sum score including headache; fatigue, weariness, or lassitude; stomach and digestion complaints, tension and irritability, sleep disorders, dejection, physical exhaustion, and emotional exhaustion (0;8)
- **Work-life balance:** scale from 0 indicating low satisfaction and 3 indicating high satisfaction



Data: Indicators of autonomy and control

- **control over the working day:** PCA component includes: the influence on beginning/ending, fixed beginning of working hours, fixed end of working hours, work from home and flexitime
 - **control over taking time off:** PCA component includes: influence on taking hours off, influence on taking breaks, influence on taking days off
- factors are normalized to a range between 0 and 1 and stored as (continuous) variables.

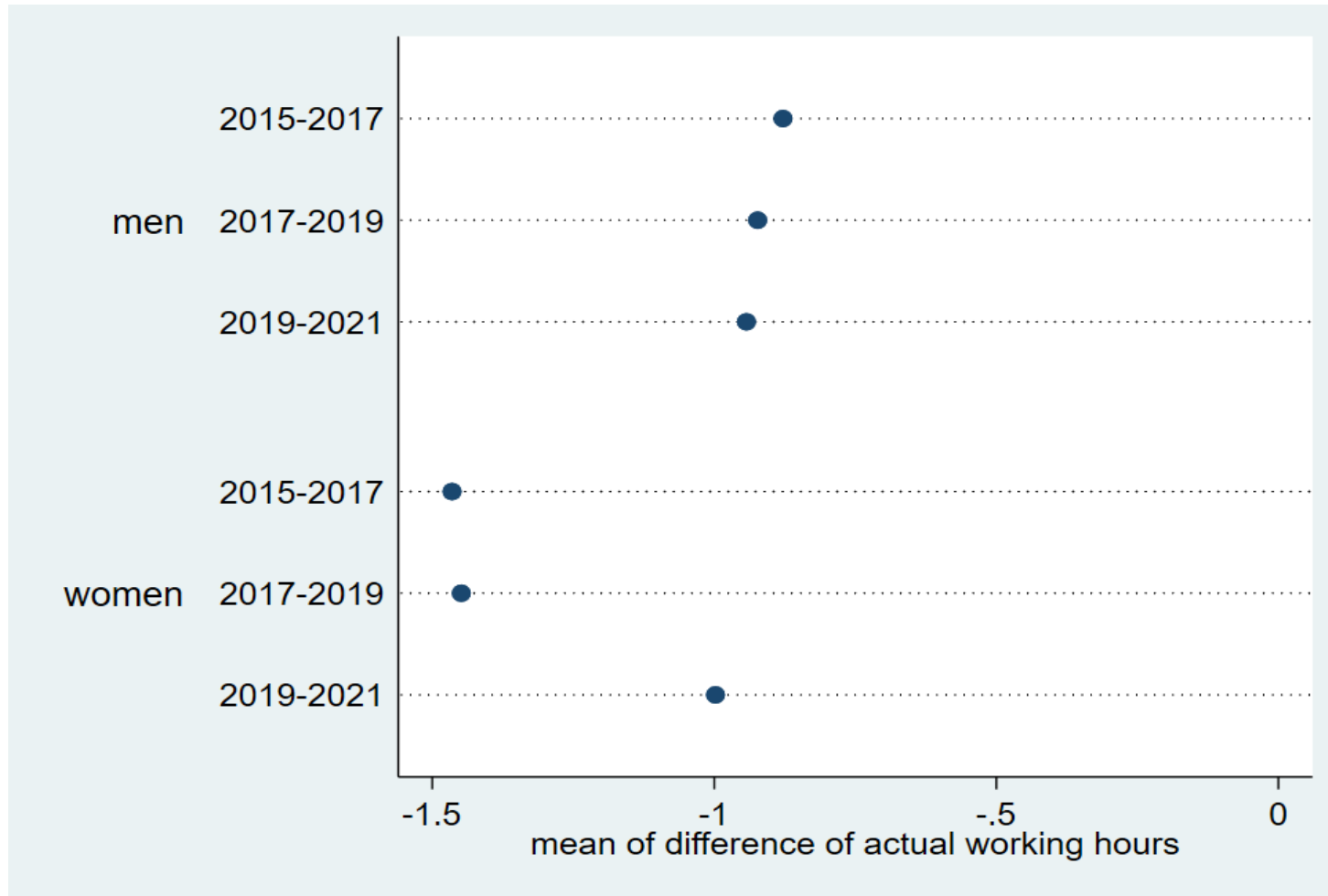


Data: Control variables

- **sex** (0=male or 1=female), four **age** group (15-29, 30-44, 45-54, 55-65), highest level of **education** (0=lower secondary school, 1=intermediate secondary school or 2=upper secondary school), presence of **children up to 12** years old in the household (yes or no), five categories for the **main occupational sector** (KIdB 2010): occupations in the production of goods, occupations in personal services, occupations in business administration and other business-related services, service occupations in the IT-sector and the natural sciences, and other occupations in commercial services.



Descriptive Evidence



Source: BAuA-Working time survey 2015, 2017, 2019, 2021.



	poor self rated health [0;4]		poor Work-Life-Balance [0,3]		Psychosomatic Complaints [0;8]	
	POLS	FE	POLS	FE	POLS	FE
Actual working hours (10 hours/week)	0.04***	0.09***	0.23***	0.20***	0.21***	0.26***
	(0.012)	(0.015)	(0.012)	(0.015)	(0.032)	(0.034)
Observations	18,634	18,634	18,634	18,634	18,634	18,634
Adjusted R-squared	0.03	0.00	0.05	0.03	0.04	0.01



Heterogeneity across groups

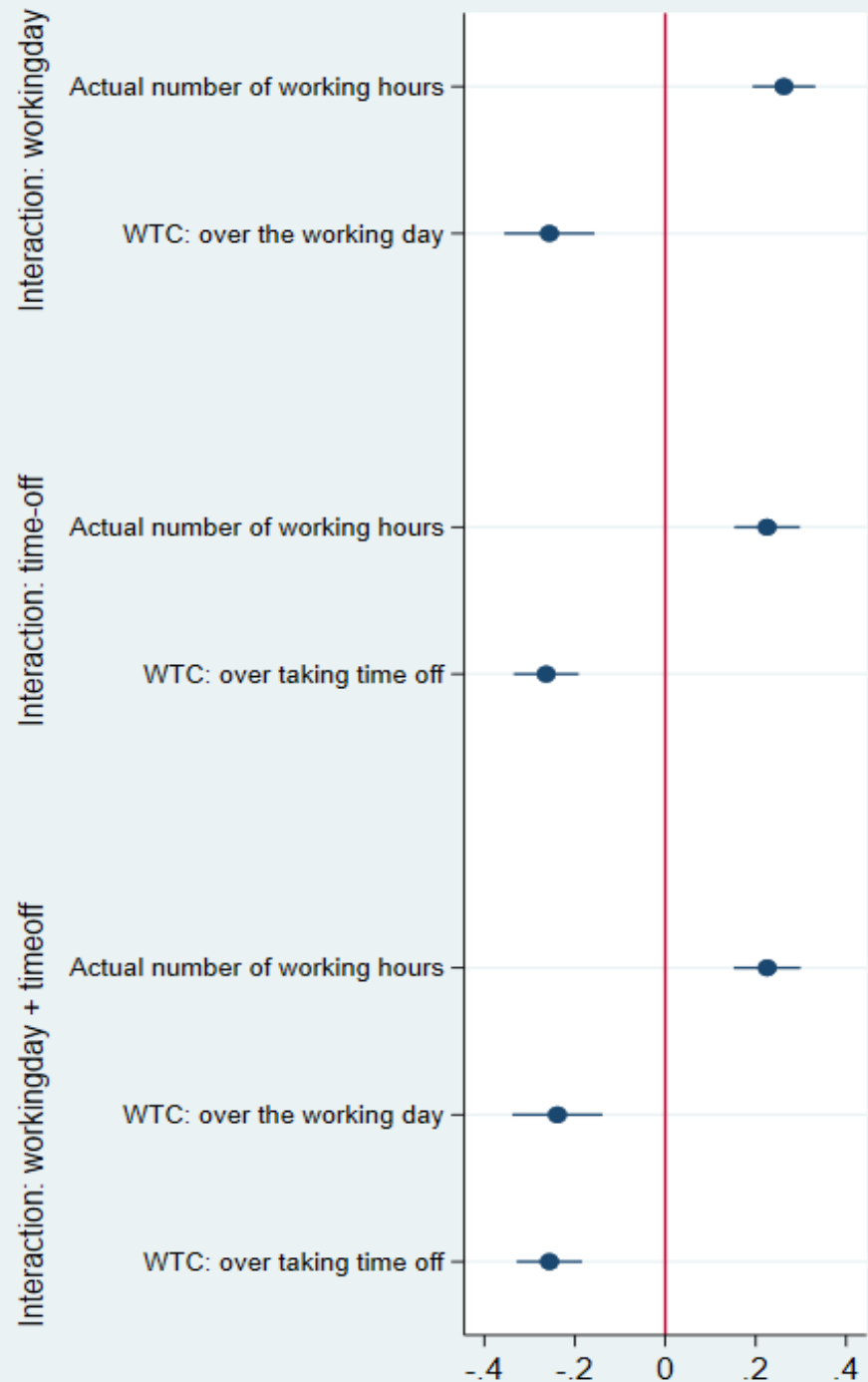
- **Women/Men:** same direction, close to the overall models.
→ The minimal gender differences suggest that we are primarily witnessing a full-time effect
- **Child(less) persons:** all estimates for employees with children, suggest a less pronounced relationship between more working time and all indicators of well-being



Psychosomatic Complaints

Model: FE-Regression,
displayed as average
marginal effects

Source: BAuA-Working time
survey 2015, 2017, 2019, 2021.



Heterogeneity across flexible work arrangements

- **Self-rated health:** negative estimators for main effects of autonomy, so increased autonomy is positively associated with self-rated health. The interaction term exhibits also a negative coefficient; aligns with the presumed benefits of having control.
- **Work-life-balance:** positive effect of flexible working conditions, when combined with an increase in working hours, counteracts the potential benefits and worsens work-life balance.



Limitations

- **Data:** little variation in the sample, only refer to four waves of the BAuA Working Time Survey so far
- **Healthy worker effect:** People who are able to perform can work more without health limitations
- **Approach:** does not account for time-variant unobserved heterogeneity



For all well-being indicators, the results indicate

a negative association with increased working hours





Thanks

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