

Finnish Institute of
Occupational Health

Associations of part-time work with sickness absence and turnover in public social and healthcare in Finland – a longitudinal work-unit level study

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Background

- The healthcare sector faces growing pressure from aging populations, care demands, staffing shortages, and challenging working conditions such as long and irregular hours, alongside high turnover and sickness absence.
 - Part-time work has been proposed to reduce workload and improve work–life balance, but more research is needed on its effects on sickness absence and employee turnover.
- Age differences shape work patterns: older employees are more likely to choose part-time work and avoid night shifts due to health concerns, while younger workers use it to balance work with family or studies.
 - Night work is particularly harmful for older employees and can increase health problems, which may lead to higher sickness absence and turnover.
 - Part-time work may support recovery, reduce absences, and improve retention, but understanding its long-term effects requires longitudinal, work-unit-level studies using detailed register data.

Aims

To investigate the associations of part-time work with sickness absence and turnover at the work-unit level among a large cohort of Finnish healthcare sector employees.

Hypothesis:

Changes (towards an increase) in part-time work in the work units are associated with changes (towards a decrease) in sickness absence or turnover.

Sample and data

Data from the Working Hours in the Finnish Public Sector (WHFPS) cohort, which contains longitudinal data on registry-based working hours, sickness absence, and turnover from 2008 to 2021.

The WHFPS cohort consists of payroll-based data on the daily working hours of employees in the Finnish public social and healthcare organizations (later called hospital districts). In addition to the minute-based timing of the daily working hours, the database includes information on age and sex, characteristics of the work contracts, work unit, and sickness absence days without diagnosis.

The **final sample** was limited to those with a minimum of 31 annual work shifts and only those work units with ≥ 10 employees, being **5933 work units** (with 36,841 observations; the mean number of employees in the work units was 23).

Sample and data (2)

Work-unit level part-time work was identified from the daily working hour records based on the part-time % for each day and then aggregated to the annual level. For the analyses, the annual part-time % in work units were split into a dichotomized variable with “0” for part-time % $\leq$ the annual median of the hospital district, and “1” for part-time work % $>$ the annual median of the hospital district.

The mean annual sickness absence days in a work unit, split by the annual median in the hospital district.

Internal and external turnover rates within and outside the hospital district were calculated based on the identification of the employees in the two consecutive years. If an employee was working in any other work unit of the organization during the next year, she/he contributed to the internal turnover of the organization; otherwise, to external turnover.

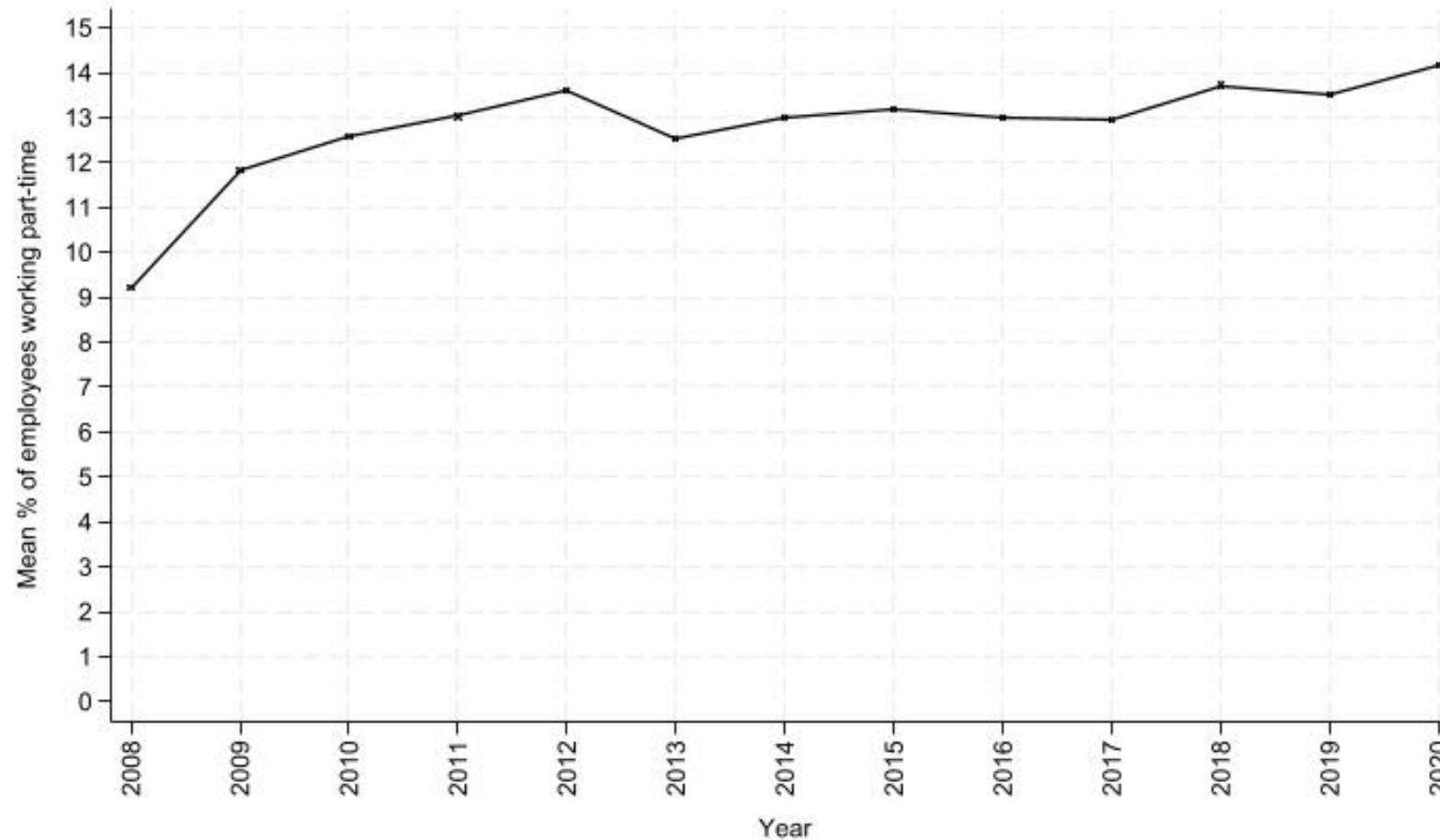
Split by the median of the work unit, where “0” was $\leq$ the annual median of the hospital district (**low**), and “1” was $>$ the annual median of the hospital district (**high**).

Statistics

- The associations of the % of part-time work at the unit level (part-time % > the annual median of the hospital districts) with an increased number of sickness absences (sickness absence days > the annual median sickness absence days of the hospital districts) or with a high annual turnover using longitudinal fixed effects (FE) time-dependent logistic regression modeling to obtain odds ratios (OR) with 95% confidence intervals (CI).
 - This enabled us to estimate how within-work-unit changes in the % of part-time work were associated with changes in sickness absence and turnover.
 - The benefit of the FE is that the group means are fixed (i.e., non-random) as it uses only within-work unit observations that change over time, so each work unit is only compared with itself, effectively serving as its control and maximizing the exchangeability of the sample.

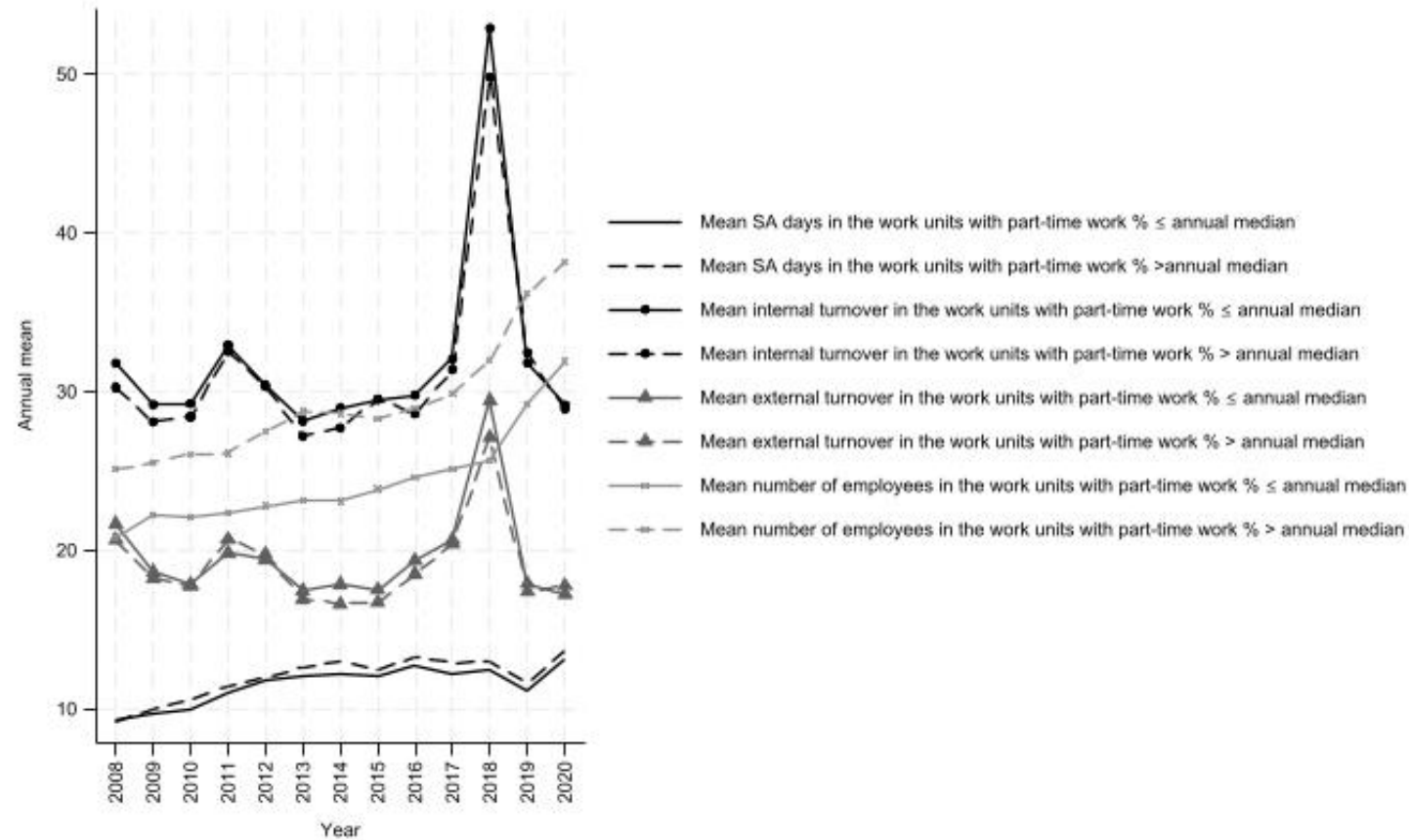
Schunck R: Within and between Estimates in Random-Effects Models: Advantages and Drawbacks of Correlated Random Effects and Hybrid Models. The Stata Journal 2013, 13(1):65-76.

Results



Prevalence of part-time work across years 2008-2020

Results (2)



Mean annual number of employees, external turnover (% of employees), internal turnover (% of employees), and sickness absence days across the study years from 2008 to 2020

Results (3)

The association of % of part-time work of a work unit with internal or external turnover, or sickness absences. Longitudinal fixed-effects model for odds ratios (OR) with 95% confidence interval (CI)

	Fixed effects regressions					
	Model 1: all		Model 2: only shift work		Model 3: time lag of the exposure	
> median part-time work (%)	OR*	95% CI	OR	95% CI	OR	95% CI
Sickness absence days (> median in the hospital district)	1.02	0.97, 1.08	1.13	1.01, 1.27	1.08	0.92, 1.26
Internal turnover (> median in the hospital district)	0.86	0.82, 0.90	0.89	0.80, 1.00	0.97	0.84, 1.13
External turnover (> median in the hospital district)	0.91	0.87, 0.96	0.89	0.79, 0.99	1.15	1.00, 1.32

*Model 1: Controlled for the number of employees, age, sex of employees, and the amount of shift work. Model 2 is the same as Model 1 but limited to shift work only. Model 3 as Model 2 but uses a time lag where the preceding exposure (part-time work and covariates) predicts outcomes. Statistically significant OR with 95%CI in boldface

Conclusions

- ✓ At the work unit level in the healthcare sector, part-time work might reduce turnover, but it is associated with a higher sickness absence, showing the opposite effect.
- ✓ Young employees might need further support beyond part-time work to remain at work (to avoid turnover), while for the aging employees, additional support beyond part-time work will be needed to reduce sickness absence rates.
- ✓ Given the irregular working hours, including night shifts, in the healthcare sector, part-time work can be considered as a feasible means to promote work participation.

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