

Working hours, health, well-being and participation in working life (WOW)

Creating new working time models and solutions to Nordic countries

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WOW (2015-2021) has 10 partners and about 50 researchers

Finnish Institute of Occupational Health



Danish Cancer Society
Research Center

Aarhus University Hospital



UNIVERSITY OF BERGEN



UNIVERSITY OF COPENHAGEN



Karolinska Institutet



WOW has produced over 110 original publications on working hours, health and well-being

Different study designs

- comparative studies, epidemiological studies, organizational and individual-based intervention studies, time-budget studies

Diverse outcomes on health and safety

- short-term: sleep, fatigue, perceived health, accidental injuries
- long-term: breast and prostate cancer, cardiovascular, neurological, musculoskeletal and mental diseases, maternal health and miscarriage, mortality

Wellbeing:

- work-life conflict, work-time control, work engagement, coping with stress

Work participation:

- short and long-term sickness absence, disability pensions

*Nordic co-operating and joint utilization of the detailed, **registry-based exposure information on working hours** has been one of the novelties and strengths of the project*

WOW main results (WP1, WP2)

- Compared to other European countries, Nordic countries have shorter average working hours and more working time control. However, they also have many differences.
- Earlier research has shown that working over 55 hours per week is associated with an increased risk of chronic health problems. These results were not replicated in Scandinavia in terms of chronic health and occupational injuries, possibly due to the lower number of people working such long weekly hours. However, reduced working hours, namely six-hour workdays or 30-hour weeks, with retained salary, has shown beneficial effects on subjective health, sleep and well-being.
- The WOW studies have lent new support to the associations between exposure to night shift work and several acute and chronic conditions such as the increased risk of fatigue and insomnia, occupational injuries, rheumatoid arthritis, type-2 diabetes, hypertension, miscarriage, and hypertension and preeclampsia during pregnancy, as well as short and long sickness absence and disability pensions. We have found mixed results regarding the association between night shift work and breast cancer, mortality and dementia, and no support for an association between night shift work and prostate cancer.
- The cohort and diary studies on working time control showed beneficial associations with work-life balance, mental and physical health, and sickness absence.

WOW main results (WP3)

- The intervention studies showed that self-rostering, the use of participative shift scheduling among hospital employees, and the use of stress therapy among managers had positive effects on work-life balance and work participation.
- In shift work, the appropriateness of bright light therapies likely depends on the number of consecutive night shifts, making this strategy difficult in quickly rotating shift work, which is common in the Nordic countries. Shift workers with insomnia may benefit from different non-pharmacological insomnia interventions performed by occupational health services.
- In 24/7 safety-critical industries, the use of fatigue risk management systems was a promising way to reduce fatigue, in addition to the use of some working hour regulations or single countermeasures such as the use of training or nap breaks.
- The use of rapidly forward-rotating 12-hour shift systems in industry showed beneficial effects on perceived health compared to 8-hour shift systems.

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Work package

WP1: Comparative research of working hours in the Nordic countries: societal and socioeconomic differences

WP2: The association of working hours with health, well-being and participation in working life: prospective cohort studies

- joint studies on sleep and fatigue, sick leave, occupational injuries, breast cancer, CVD, dementia, miscarriage, mortality

WP3: Creating and testing solutions association to working hours

1. Organizational solutions for shift work
2. Individual solutions for shift work
3. Solutions to boundaryless expert work
4. Fatigue management in safety critical industries

WP4. Implementation and dissemination

Relevance – examples on implementation and added Nordic value

Guidance for macro-level development of working hours
=> **Invited speeches in EU and in different Nordic countries**

Consensus recommendations for good working hour patterns in Nordic countries

=> **company level: e.g. night work, quick returns (< 11h), shorter working hours, night work and pregnant women**
=> **national-level: e.g. update of Finnish Working Time Act**
=> **international level: policy recommendations, e.g. WTS, IARC**

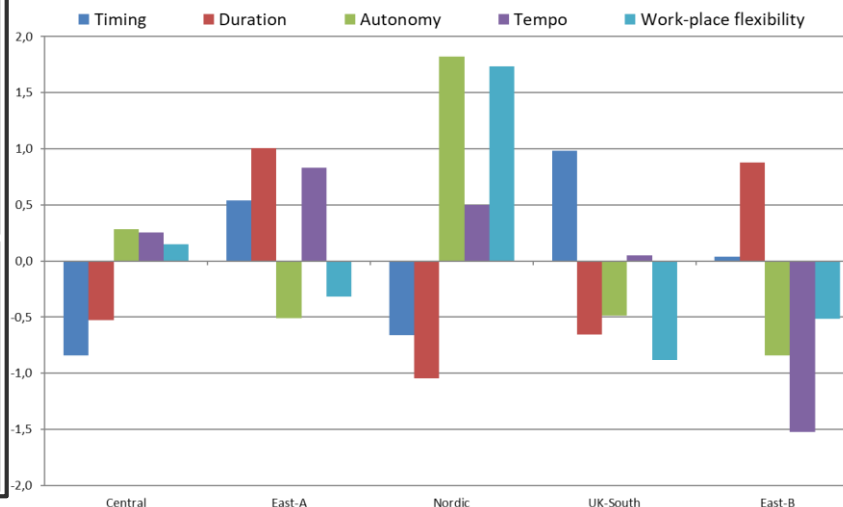
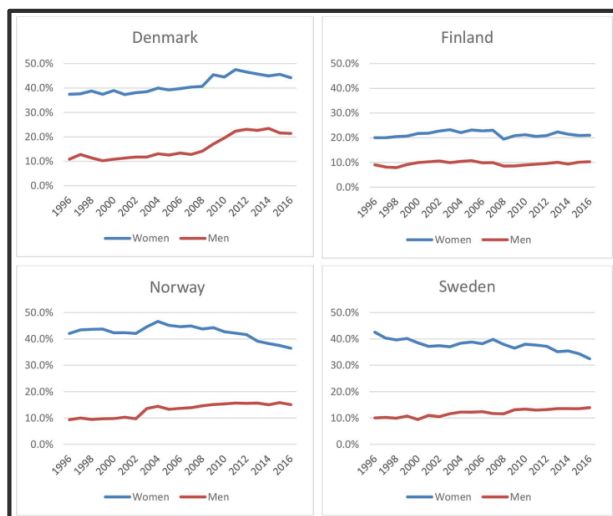
Guidance and tools to individuals, organizations, unions and the Nordic societies

=> **implementation of better shift schedules**
=> **Implemented tools for good shift ergonomics and the use of participatory shift scheduling in social and health care sector**
=> **non-pharmacological treatment of shift work disorders**
=> **good practices for the use of flexible working hours**
=> **implemented tools for fatigue management systems**

=> **Stabilization of the Nordic research platform WINC (Working hours In the Nordic Countries – annual meetings)**
=> **education on working hours and health (through NIVA)**

Example of implementation: comparative research of working hours: societal and socioeconomic differences

WP1: Evidence-based knowledge on Nordic and European data to identify policy-relevant trends and vulnerable groups



Invited speeches in European Parliament: E.g. 'Working time and work-life balance in the EU' (TU), 'Long working hours' (TU), 'Working hour policy and legislation' for directors of DG Employment (FIOH)

Invited speeches and hearings on national level in different Nordic countries

- ¹ Riekhoff AJ et al.. Working-hour trends in the Nordic countries: convergence or divergence? Nordic Journal of Working Life Studies 2019; 9(3), 45-70.
- ² Satu Ojala et al. Part-time workers' career trajectories by the length of hours and reason for part-time. A 10-year follow-up study.
- ³ Oinas, T. & Anttila, T. (2021). Trends and prevalence of excessive and short work hours in Europe and their consequences on subjective well-being of European employees. Research Note for the Social Situation Monitor of European Commission. (35 pages).

Example of implementation:

WP2 Utilizing working time recommendations in feedback and apps

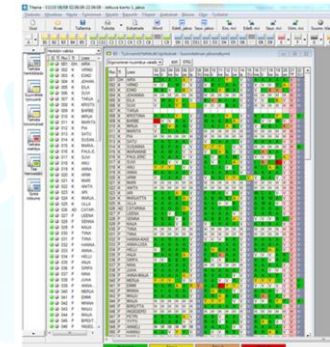
- Based on WOW, we created FIOH traffic light model: working hour recommendations supporting health
- FIOH traffic light model was linked to private shift scheduling software used by the majority of the health and social care sector (**Titania®**, CGI Finland)
- Feedback to communities and hospitals on their working hour characteristics using a feed-back portal (**Shift work reports to more than 1000 hospital units**)
- Open trend data (Finnish/English/Swedish)

FIOH traffic lights

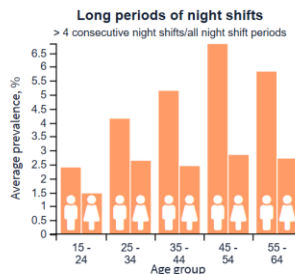
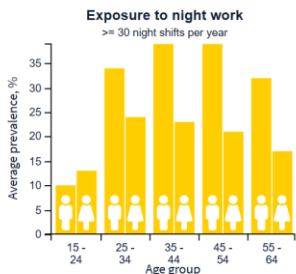
1. TYÖAJAN PITUUS

	Voimakas ylikuormitus	Ylikuormitus	Kohennut kuormitus	Kunnossa
				
Kahden vapaapäivän välinen työjakso tunteina	>55:00	48:01-55:00	40:01-48:00	≤40:00
Työvuoron pituus tunteina kokoaikatyössä	>14:00	12:01-14:00	10:01-12:00	4:00-10:00

Titania® (CGI Finland) Traffic light apps



FIOH Shift work report



Open interactional trend data

Example of implementation: utilization of evidence-based knowledge from WOW in the update of the new Working Hours Act in Finland

Time period

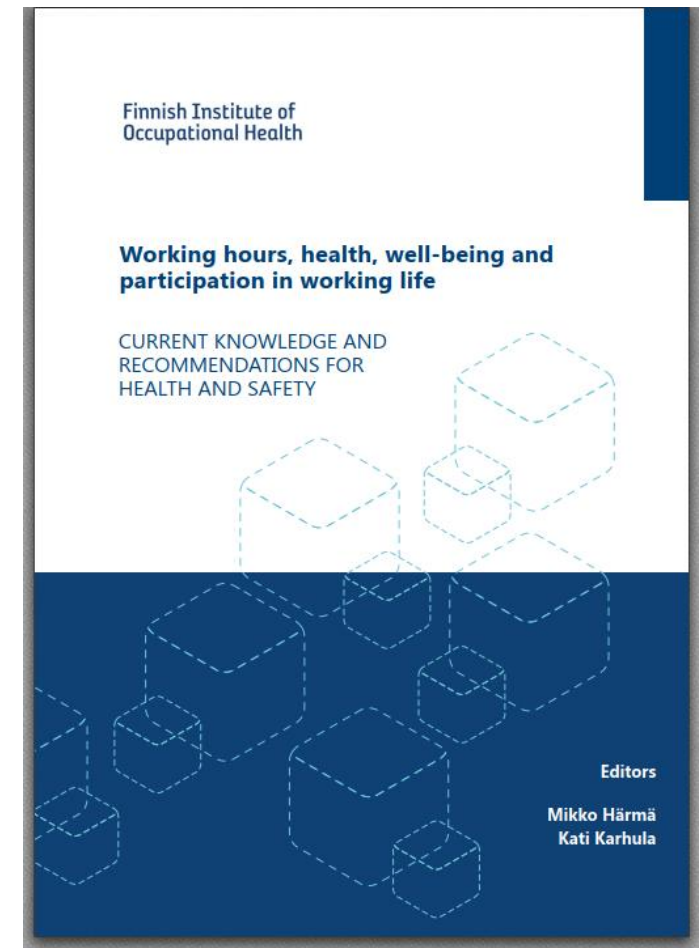
1. Before preparation of the new act
2. Preparation of the new act in the Ministry of Economic affairs and Employment
3. Working Hours Act in the Finnish Parliament

FIOH activities

- **Continuous dissemination** of knowledge on the association of working hours with health and well-being based on long-term FIOH scientific research & development
 - Autumn 2016 FIOH was asked to **two hearings**
 - February 2017: FIOH **public seminar and written statement** on the reform of the Working Hours Act, supporting good publicity and further discussions with different partners
 - 22.08.2017 FIOH gave **written statement** on the 1st draft of the new act
 - 08.10.2017 ministry asked FIOH to provide suggestions on the night shifts arrangements preventing the health and safety risks: **written expert report**
 - 23.5. 2018 **public statement** on the new update of the act
 - 12.11. 2018 FIOH hearing in the Parliament, **new written statement** to the Employment and Equity Committee of the Parliament of Finland
- 01.01.2020 Working Hours Act implemented, including a limitation for consecutive night shifts and quick returns. Parliament decides that the government needs to follow the health and safety consequences of the Act**

Additional information

- **WOW Symposium webpages and recording of the symposium:**
<https://www.ttl.fi/en/research-and-development-projects/wow/wow-policy-2020-symposium/>
- **WOW final report**
<https://www.julkari.fi/handle/10024/140634>
- **Key WOW recommendations and posters**
<https://www.ttl.fi/en/research-and-development-projects/wow/wow-policy-2020-symposium/>





We are WOW! mugs



WINC researchers in Stockholm (2016)

Thank you!

@MikkoHaermae



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@fioh



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tyoterveys



Tyoterveyslaitos

