Control over scheduling of shifts and objective working hour characteristics

Kati Karhula[1], Paula Salo[1,2], Aki Koskinen[1], Anneli Ojajärvi[1], Tuula Oksanen[1], Sampsa Puttonen[1], Mika Kivimäki[1,3,4], Mikko Härmä[1]
kati.karhula@ttl.fi

Finnish Institute of Occupational Health, Finland; [2] Department of Psychology, University of Turku, Finland; [3] Clinicum, Faculty of Medicine, University of Helsinki, Finland; [4] Department of Epidemiology and Public Health, University College London, United Kingdom

Objective

To study the association of perceived control over scheduling of shifts (CoSS) with objectively measured working hour characteristics.

Methods

Hospital employees' (n=5 128, 91% women, average age 43 years) survey responses from the 2015 Finnish Public Sector study hospital cohort were linked to payroll data on working hour characteristics from the 91 days preceding the survey.

Multinomial logistic regression was used to assess differences in dichotomized proportion of working hour characteristics between employees with high (n=1 751), intermediate (n= 1 686) or low (n= 864) CoSS ("How much control do you have over scheduling of work shifts?", Ala-Mursula et al. 2002).

Analyses were adjusted for multiple covariates. Differences between age, gender and work ability were examined using interaction terms with CoSS.

Table 1. Control over scheduling of shifts and working hour characteristics. Odds ratios for intermediate and low CoSS with high CoSS as reference.

		Adjusted model[1]	Interactions[2]		
	Level of control	OR (95% CI)	Age	Sex	Work ability
>25% of >40-hour work weeks of all work weeks	High	1	0.616	0.741	0.766
	Intermediate	0.96 (0.83–1.11)			
	Low	1.04 (0.87–1.24)			
>10% of >48-hour work weeks of all work weeks	High	1	0.031	0.153	0.174
	Intermediate	0.90 (0.76–1.06)			
	Low	0.97 (0.79–1.19)			
>25% of >12-hour shifts of all shifts	High	1	0.374	0.020	0.243
	Intermediate	1.06 (0.77–1.45)			
	Low	1.14 (0.76–1.71)			
>25% of quick returns (<11h) of all shift intervals <48h	High	1	0.871	0.478	0.305
	Intermediate	0.95 (0.81–1.10)			
	Low	0.93 (0.77–1.13)			
>25% of single days off of all day off-periods	High	1	0.515	0.409	0.726
	Intermediate	1.02 (0.87–1.19)			
	Low	1.03 (0.85–1.25)			
>10% of evening shifts of all shifts	High	1	0.268	0.107	0.779
	Intermediate	1.26 (0.95–1.66)			
	Low	1.06 (0.76–1.48)			
>10% of night shifts of all shifts	High	1	0.713	0.526	0.206
	Intermediate	0.96 (0.83–1.11)			
	Low	0.85 (0.71–1.02)			
>25% of weekend work of all weekends	High	1	0.958	0.177	0.122
	Intermediate	0.91 (0.76–1.08)			
	Low	0.75 (0.61–0.93)			
>25% of >4 consecutive work shifts	High	1	0.869	0.256	0.051
	Intermediate	1.09 (0.94–1.26)			
	Low	1.35 (1.13–1.62)			
Variability of shift length >0.55h	High	1	0.141	0.399	0.871
	Intermediate	0.78 (0.66–0.93)			
	Low	0.62 (0.51–0.75)			

[1] Adjusted with age, sex, education, full-time/part-time work, shift work experience, perceived work ability, children <18 years, overall stressfulness of the life-situation
[2] Separate analysis of interaction between age or sex or work ability and the working hour characteristics

Results

Low CoSS was associated less often with high proportion (>25%) of weekend work compared to high control. High proportion (>25%) of >4 consecutive work shifts was associated with lower CoSS.

Variability of shift length was lower among employees with intermediate and low CoSS compared to those with high CoSS.

In subgroup analyses, women with low CoSS had lower odds and men had higher odds for large proportion long (>40 h) work shifts.

Conclusion

Employees with high CoSS had slightly more irregularity in working hour characteristics than employees with intermediate or low control.

Our findings suggest that good work time control is possible without compromising shift ergonomics.

References

Ala-Mursula, L., Vahtera, J., Kivimäki, M. et al. 2002. Employee control over working times: Associations with subjective health and sickness absences. *J Epidemiol Community Health.* 56: 272-8.

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Työsuojelurahasto
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