

Relationships between work environment factors, and need for recovery and presence of neck-shoulder complaints in younger and older office workers

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- to explore the relationships between work environment factors, and need for recovery and presence of neck-shoulder complaints in younger and older office workers

Data collection

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- screening “Well-being Indicator”
 - assessment tool
 - prevention and well-being at work
- primary aim
 - mapping bottlenecks on well-being at work
 - identify priority action areas / employee groups
 - starting point for preventive actions in the company
- secondary aim
 - use pooled data for scientific research

- cross-sectional study
- data 2015-2016
- 128 organizations (both public and private sector)
 - average 180 employees/organization (19-1246)
- n: **17400 (response rate 79.0%)**
- 3 occupational groups
 - managers (n=3309)
 - non-office workers (n=7718)
 - office workers (n=6373)

Office workers

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- n=6373
- 2 age groups
 - <45 yr (n=4047; **63.5%**)
 - ≥45 yr (n=2326; **36.5%**)
- 58.8% women (n=3746)

Dependent outcome variables

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- need for recovery (NFR)
 - predictor of mental disorders
 - “The Need for Recovery Scale” questionnaire
 - 11 dichotomous (Y/N) items; scale 0-11
 - high NFR $\geq 6/11$
 - ***presence of high NFR***
- neck-shoulder complaints (NSC) during the last 12 months
 - Standardised Nordic Questionnaires
 - ***presence of NSC***

Considered independent variables

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- discomfort from physical work environment (*)
 - inadequate temperature
 - insufficient fresh air
 - draughts
 - disturbing noise
 - inadequate lighting
- physical workload (scale 0-10) (*)
- gender

** developed by research team*

- dichotomous variables (Y/N)
 - balance between work and private life (**)
 - unacceptable behavior in the past 12 months (*)
 - bullying; gossip & slander; quarrels & conflicts; verbal and physical aggression; undesirable sexual attention
- scales 0-10
 - rewards (*)
 - quantitative work demands (*)
 - emotional work demands (*)
 - control over working time (*)
 - possibilities for development (*)
 - workplace social capital (*)
 - role clarity (*)
 - participation in decision making (**)
 - work resources (**)
 - work more hours than desired (**)

* *Copenhagen Psychosocial Questionnaire (COPSOQ)*

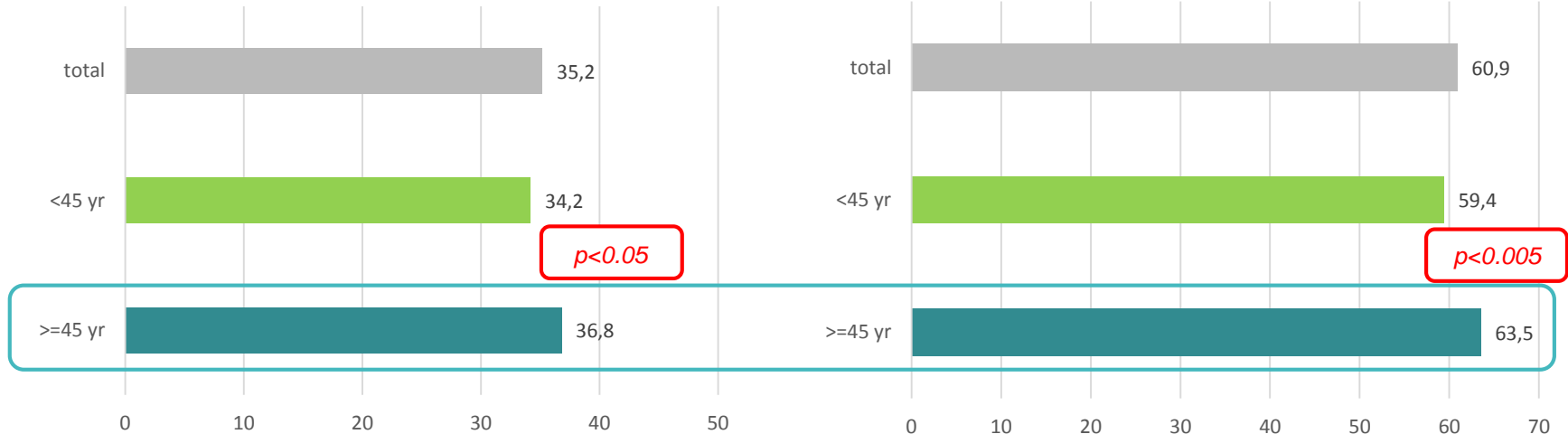
** *developed by research team*

- high NFR and NSC prevalence by age group
 - chi-square test to test differences between groups
- multivariate log-binomial regression analyses
 - binomial regression coefficients (β) for the presence of high NFR and NSC
 - separately by age group

Prevalence rates by age group

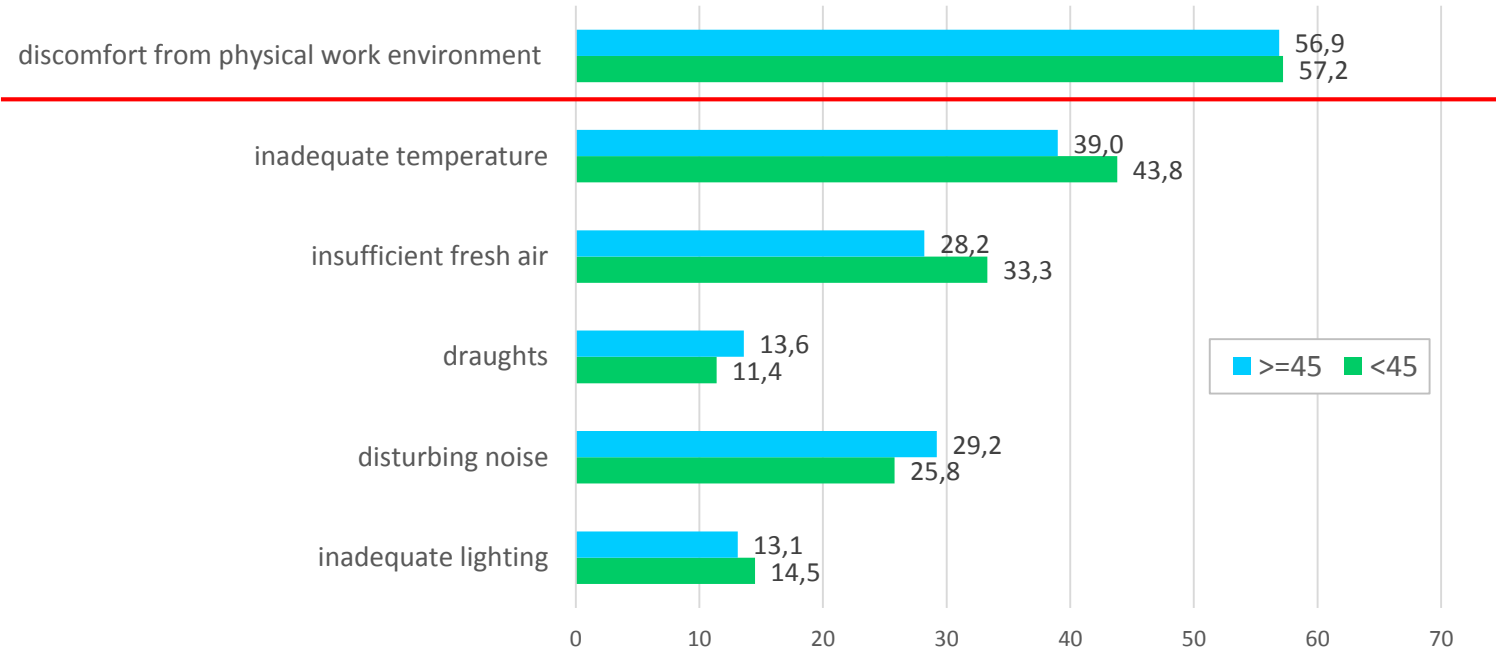
% high need for recovery

% neck-shoulder complaints



older office workers:
higher prevalence rates for high need for recovery and neck-shoulder complaints

Experienced work environment factors by age group



Significant factors for NFR

binomial regression coefficients (β) for the significant associations with presence of high NFR (multivariate)

<i>variable</i>	<45 yr (n=3850)	≥45 yr (n=2198)
	β	β
gender (W vs M)	0.204*	0.293**
physical work load (0-10)	0.181***	0.190***
quantitative work demands (0-10)	0.147***	0.171***
emotional work demands (0-10)	0.150***	0.119***
possibilities for development (0-10)	-0.101***	-0.081**
work private balance	-1.533***	-1.366***
more hours than desired (0-10)	0.064***	0.055**
...		
discomfort from physical work environment	0.491***	0.275*

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

Significant factors for NSC

binomial regression coefficients (β) for the significant associations with presence of NSC (multivariate)

variable	<45 yr (n=3850)	\geq 45 yr (n=2198)
	β	β
gender (W vs M)	0.750***	0.756***
physical work load (0-10)	0.221***	0.346***
quantitative work demands (0-10)	0.069***	0.080**
...		
discomfort from physical work environment	0.433***	0.376***

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

discomfort from physical work environment:
1 of 4 “constant” factors associated with high NFR and NSC in both age groups

Significant factors for NFR

binomial regression coefficients (β) for the significant associations with presence of high NFR (multivariate)

variable	<45 yr (n=3850)	\geq 45 yr (n=2198)
	β	β
discomfort from physical work environment	0.491***	0.275*
inadequate temperature	NS	NS
insufficient fresh air	NS	0.281*
draughts	NS	NS
disturbing noise	0.343***	NS
inadequate lighting	NS	NS

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

Significant factors for NSC

binomial regression coefficients (β) for the significant associations with presence of NSC (multivariate)

variable	<45 yr (n=3850)	≥45 yr (n=2198)
	β	β
discomfort from physical work environment	0.433***	0.376***
inadequate temperature	NS	NS
insufficient fresh air	NS	0.270*
draughts	NS	NS
disturbing noise	0.188*	NS
inadequate lighting	0.469***	NS

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

- both age groups
 - *discomfort from physical work environment* associated with high NFR and NSC
- older age group
 - *insufficient fresh air* associated both with high NFR and NSC
- younger age group
 - *disturbing noise* associated both with high NFR and NSC
 - *inadequate lighting* associated with presence of NSC

- “soft” physical work environment factors should not be neglected
- office designers should pay special attention to
 - fresh air
 - noise
 - lighting

THANK YOU

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