

RISK MODIFIERS: OPA & PSYCHOSOCIAL JOB FACTORS

Els Clays

BACKGROUND & HYPOTHESES

- Increasing evidence: OPA & CVD
- Physical work demands ever present

→ Need for preventive measures against premature cardiovascular morbidity and mortality in workers with high physical job demands

- ❖ Structural preventive measures: collective workplace level
- ❖ Psychosocial job factors
 - Job-Demand-Control-Support model
 - Job-Demand-Resource model
 - Effort-Reward-Imbalance model

BACKGROUND & HYPOTHESES

Int Arch Occup Environ Health (2015) 88:631–640
DOI 10.1007/s00420-014-0990-1



CrossMark

ORIGINAL ARTICLE

Buffering effects of job resources on the association of overtime work hours with psychological distress in Japanese white-collar workers

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Kanami Tsuno · Kimiko Tomioka · Mayuko Nakanishi ·
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BACKGROUND & HYPOTHESES

Potential effect modifying role of psychosocial job resources:
Can they buffer the harmful impact of OPA on CVD outcomes?

- ❖ Direct physiological mechanism: lower cardiovascular reactivity in response to physical workload
- ❖ Indirect explanations
 - Psychological mechanisms: impact perceptions, mental states
 - Behavioral mechanisms: more effective coping mechanisms
 - Work organizational mechanisms: more recovery opportunities, more tailoring to individual capacities and fitness level

EMPIRICAL EVIDENCE: CHD

Int Arch Occup Environ Health (2016) 89:1299–1307
DOI 10.1007/s00420-016-1165-z



ORIGINAL ARTICLE

Do psychosocial job resources buffer the relation between physical work demands and coronary heart disease? A prospective study among men


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Table 3 Crude and adjusted relations of physical work demands with coronary heart disease stratified by social support at work, and of combined exposure to physical work demands and social support

at work, results from multilevel Cox proportional hazards regression analyses in 14,337 men from the BELSTRESS cohort study

	Crude results			Adjusted results: model 1 ^a		Adjusted results: model 2 ^b		Adjusted results: model 3 ^c	
	% Events	No of events (total no of subjects)	$P(\chi^2)$	HR	95 % CI	HR	95 % CI	HR	95 % CI
Stratified analysis: low SSW									
Physical work demands			<0.01						
Low	0.6	27 (4575)		1		1		1	
High	1.6	15 (944)		2.86	1.50–5.46	2.73	1.29–5.78	2.50	1.13–5.50
Stratified analysis: high SSW									
Physical work demands			0.81						
Low	0.5	35 (7021)		1		1		1	
High	0.4	4 (1028)		0.78	0.27–2.20	0.72	0.25–2.08	0.40	0.09–1.70


EMPIRICAL EVIDENCE: CHD

Int Arch Occup Environ Health
DOI 10.1007/s00420-017-1207-1



ORIGINAL ARTICLE

Does influence at work modify the relation between high occupational physical activity and risk of heart disease in women?

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Abstract

Purpose To investigate whether influence at work modifies the association between demanding and strenuous occupational physical activity (OPA) and risk of ischaemic heart disease (IHD).

Methods A sample of 12,093 nurses aged 45–64 years from the Danish Nurse Cohort Study was followed for 20.6 years by individual linkage to incident IHD in the Danish National Patient Registry. Information on OPA, influence at work, other occupational factors and known risk factors for IHD was collected by self-report in 1993.

Results During follow-up 869 nurses were hospitalised with incident IHD. Nurses exposed to strenuous OPA and low influence at work had a 46% increased risk of IHD [hazard ratio (HR) 1.46 (95% confidence interval (CI) 1.02–2.09)] compared to the reference group of nurses with moderate OPA and high influence at work. Nurses exposed to strenuous OPA and high influence at work were not at

an increased risk of IHD [HR 1.10 (95% CI 0.59–2.06)]. An additive hazards model showed there were 18.0 (95% CI –0.01 to 36.0) additional cases of IHD per 10,000 person years among nurses with strenuous OPA and low influence at work compared to nurses with moderate OPA and high influence at work. A detrimental additive interaction between strenuous OPA and low influence at work that could explain the additional cases of IHD among nurses with strenuous OPA and low influence at work was indicated.

Conclusion The findings suggest that high influence at work may buffer some of the adverse effects of strenuous OPA on risk of IHD.

Keywords Heart disease · Occupational health · Physical activity · Influence at work · Prospective study · Women

EMPIRICAL EVIDENCE: MSD

Original article

Scand J Work Environ Health. 2016;42(2):125–134. doi:10.5271/sjweh.3549

Social support modifies association between forward bending of the trunk and low-back pain: Cross-sectional field study of blue-collar workers

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Table 5. Effect modification of the duration of $\geq 30^\circ$ forward bending of the trunk while standing still or moving slightly during work on the level of low-back pain intensity (low LBPI ≤ 5 and high LBPI > 5 on scale from 0–10) by social support (low, moderate and high) among blue-collar workers. [OR=odds ratio; 95% CI=95% confidence interval.]

Level of social support	Duration category of $\geq 30^\circ$ forward bending of the trunk								Long duration forward bending within strata of social support	
	Short–moderate				Long					
	LBPI				LBPI				LBPI	
	Low (N)	High (N)	OR ^a	95% CI	Low (N)	High (N)	OR ^a	95% CI	OR ^a	95% CI
Low	48	12	1.08	0.42–2.79	20	14	2.97 ^b	1.11–7.95	3.28 ^b	0.99–10.90
Moderate	69	25	1.51	0.65–3.48	26	4	0.63	0.18–2.23	0.53	0.16–1.78
High	68	32	1.95	0.86–4.41	45	11	1.0		0.39 ^b	0.16–0.95

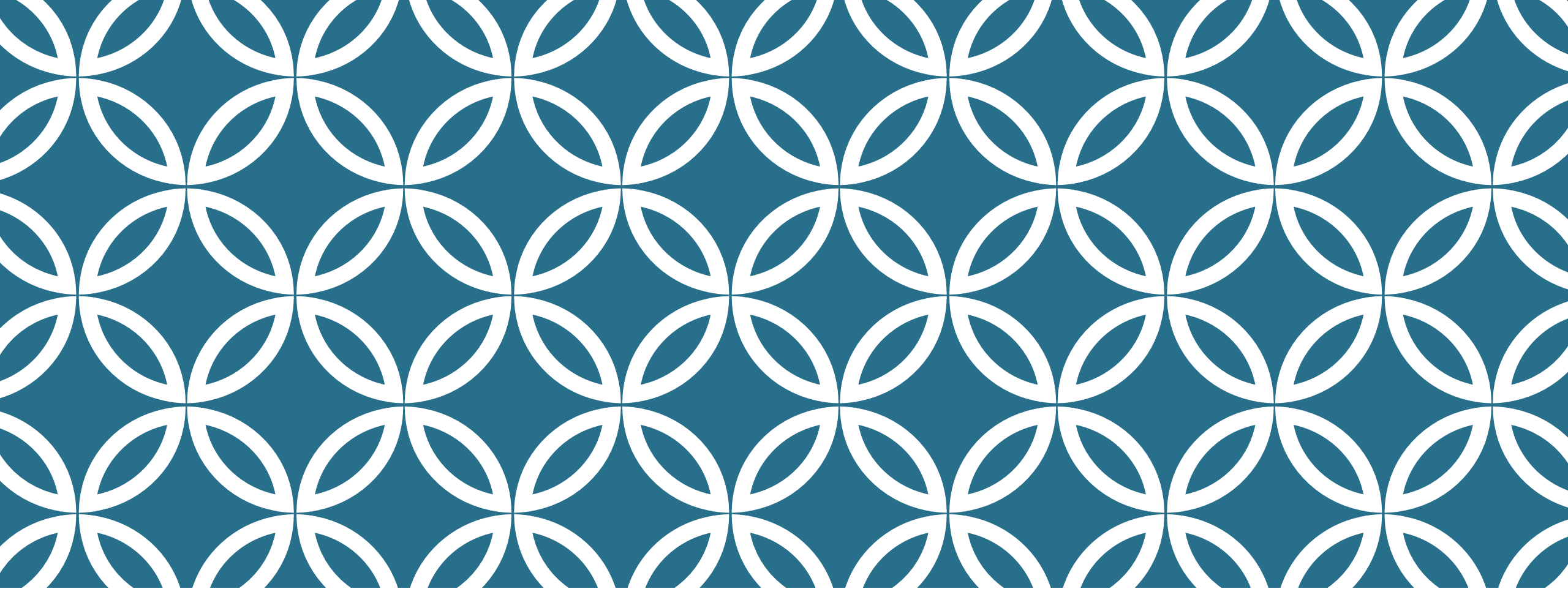
^a OR adjusted for age, gender, seniority, BMI, smoking, the lift burden at work as well as forward bending during leisure time.

^b Significant ($P \leq 0.05$).

CONCLUSIONS

Psychosocial job resources as effect modifiers in OPA – CVD relation?

- Empirical evidence is scarce and mixed
- More detailed investigations needed using objective measurements



THANK YOU!

