



Bundesanstalt für Arbeitsschutz und Arbeitsmedizin

**COPSOQ risk factors for long term sickness
absence in the Danish Work Environment Cohort
Study (DWECS) - what has been found and how
should we proceed in the future?**

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Federal Institute for Occupational Safety and Health



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COPSOQ in DWECS – a national cohort study on work and health

- COPSOQ 1 in 2000 & 2005, some items 2010
- linked with

national sickness compensation data (DREAM) since 1995

interviews with company representatives 1996



Content of DWECS

- **DWECS questions on working conditions**

Physical (body postures, heavy work, repetitive work)

Psychosocial (COPSOQ and other)

- **Work site study interviews on management style**



Question: To what extent is long term sickness absence predicted by

- Psychosocial working conditions?
- Management style?



Method: Population

- **“COPSOQ Study”**: DWECS 2000 linked with DREAM 2001-2
5,340 employees aged 18 to 69 years (response rate 75%)
- **“Work site study”**: DWECS 1995 linked with work site study 1996 and DREAM* 1996-7
3,318 employees aged 18-64 years (response rate 80%)
in work sites (>5 employees - response rate 63%)



Variables: „COPSOQ Study“

- **DWECS**
 - Physical
 - Psychosocial
 - COPSOQ 1
 - Influence at work
 - Possibilities for development
 - Quantitative demands
 - Emotional demands
 - Demands of hiding emotions
 - Job insecurity*
 - Social support
 - Quality of leadership
 - Meaning of work
 - Predictability
 - Other
 - Role conflicts (incl. conflicting demands)
 - Reward
 - Conflicts at work
- **DREAM register**
 - 6 weeks long term sickness absence spells



Variables: „Work site study”

- **DWECS**
 - Physical
 - Psychosocial (not COPSOQ)
 - Possibilities for development
 - Influence at work
 - Social support
 - Job demands
 - Conflict at work
- **Work site study:**
 - Leadership style
- **DREAM register**
 - Work disability
 - Disability retirement pension *or*
 - Spell long term sick leave absence >9 weeks up to 31 December 1997 *or*
 - A total of sick leave benefits >14 weeks in 1997



“Work site study”: Leadership style questions

- **Employee development scale**
 - (a) Employee conference interviews; (b) Organizational changes to improve independent responsibilities of employees; (c) Changes to employee tasks in order to promote personal development; (d) Supplementary training of employees and managers.
- **Supplementary training**
 - Mean days per employee



Analysis

- **“COPSOQ study”**

Cox regression of each psychosocial scale as independent variable controlled for physical working conditions, smoking and age

- **“Work site study”**

Logistic regression of each psychosocial scale as independent variable controlled for physical working conditions, smoking and age



Results: “COPSOQ study”

Females

Risk Factor	Model III		
	HR	95% CI	P
Decision authority	0.96	0.81–1.13	0.63
Skill discretion	0.87	0.74–1.01	0.07
Quantitative demands	0.94	0.80–1.11	0.46
Emotional demands	1.15	0.98–1.33	0.08
Hide emotions	1.08	0.93–1.26	0.31
Job insecurity	1.02	0.88–1.19	0.77
Social support	0.87	0.74–1.01	0.06
Management quality	0.84	0.71–0.98	0.02
Role conflict	1.23	1.07–1.42	0.00
Reward	0.83	0.70–0.97	0.02
Meaning	1.08	0.91–1.28	0.41
Predictability	0.89	0.76–1.04	0.14
Conflict in work	0.97	0.84–1.12	0.69
Intensive quantitative demands	0.95	0.81–1.11	0.50

Males

Risk Factor	Model III		
	HR	95% CI	P
Decision authority	0.86	0.72–1.02	0.09
Skill discretion	0.97	0.81–1.16	0.75
Quantitative demands	0.97	0.81–1.16	0.76
Emotional demands	1.21	1.01–1.45	0.04
Hide emotions	1.21	1.03–1.43	0.02
Job insecurity	1.11	0.94–1.31	0.21
Social support	1.07	0.90–1.28	0.45
Management quality	0.95	0.81–1.13	0.58
Role conflict	1.13	0.96–1.32	0.13
Reward	0.92	0.78–1.08	0.31
Meaning	1.11	0.93–1.32	0.27
Predictability	0.96	0.81–1.13	0.62
Conflict in work	1.12	0.93–1.35	0.24
Intensive qualitative demands	0.90	0.75–1.08	0.27



Results: „Work site study“

Risk factor		N	Final model, step 3 ^{a,b}	
			OR	95% CI
Health				
Mental health	Poor	90	3.8	1.66–8.81
	Good	3,125	1	
Musculoskeletal symptoms, neck/shoulders	Yes	1,593	1.6	0.92–2.77
	No	1,647	1	
Chronic bronchiitis	Yes	530	1.8	1.01–3.21
	No	2,710	1	
Smoking status				
Smoking	Current	1,299	2.0	1.07–3.74
	Former	650	1.1	0.48–2.58
	No	1,291	1	
Work environment				
Work with arms lifted/hands twisted	Yes	1,517	2.1	1.22–3.73
	No	1,623	1	
Organization				
Employee development	Low	503	2.2	1.11–4.39
	Medium	1,227	1.2	0.62–2.14
	High	1,341	1	
Use of supplementary training	Low	1,105	2.4	1.11–5.26
	Medium	911	1.7	0.77–3.90
	High	824	1	1



Fraction of long term sickness absence spells explained

- **“COPSOQ study”**

None*

- **“Work site study”**

Lack of employee development: 22%

No or few days of supplementary training vs. more: 43%



Discussion

- **Leadership style explained more of LTSA than individual COPSOQ scales**
- **Why?**
 - Statistical: Colinearity
 - Data level: Company vs, individual experience



The future of COPSOQ

- **Colinearity:**

Scales inhibit each other in multiple regressions

„Meta-scales“ and/or theory based selection of existing scales?

- **Data collection levels:**

Development of questionnaires for managers, HR-people!



Analysis

- **“COPSOQ study”**

None

Males

emotional demands: 14%

demands on hiding emotions: 4%

Women

management quality: 12%

role conflicts: 15%

rewards: 12%

- **“Work site study”**

Lack of employee development: 22%

No or few days of supplementary training vs. more: 43%