

A new tool for assessing psychosocial factors at work : The Copenhagen Psychosocial Questionnaire

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Background

There is as much need for valid and reliable instruments to assess exposures in the psychosocial as other areas of work environment research and practice. At the National Institute of Occupational Health (NIOH) in Denmark the Copenhagen Psychosocial Questionnaire (COPSOQ) for assessing psychosocial work environment factors has been developed in three versions: a long version for researchers, a medium-sized variant for use by work environment professionals, and a short version for workplaces. The concept as a whole has been dubbed "the three-tier concept".

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In developing the COPSOQ, we set ourselves a series of goals :

- to develop valid instruments for use at different levels;
- to improve communication between researchers, work environment professionals and workplaces;
- to make national and international comparisons possible;
- to improve surveys of the psychosocial work environment;
- to improve and facilitate evaluations of workplace action;
- to make it easier to put complicated theories and concepts into practice.

Methods

The project was rolled out in several phases. In phase one, psychosocial questionnaires from different countries were collected in order to study the different models, concepts, and questions. Sixteen questionnaires from Finland, Sweden, UK, USA, Denmark, and the Netherlands were used. Several of the questionnaires were inspirational and good quality, but none were found to be suitable for our purpose. In phase two, 145 questions were selected from the 16 questionnaires, and 20 new questions of our own were added. These 165 questions were tested empirically in a survey of a representative sample of 1858 adult Danish employees (20-60 years of age, 49% women, response rate : 62%). The responses were then analysed for internal consistency, factorial validity, missing values, and response patterns. The aim was to develop a number of scales, each based on several questions in order to improve reliability and validity of the assessments. The result was a research questionnaire with 141 questions comprising 30 different dimensions – scales – (see Figure 1).

Next, the scales were reduced in length to a maximum of 4 questions per scale (5 in some cases), and a number of scales on individual characteristics were excluded. This resulted in a medium-sized questionnaire with 95 questions and 26 dimensions. In both the long and medium-sized versions of COPSOQ, all scales run from 0 to 100 points. Finally, the short-form questionnaire was developed by reducing both the number of dimensions and questions. It comprises 44 questions and only 8 dimensions, some of which include several of the dimensions of the longer versions (see Figure 1).

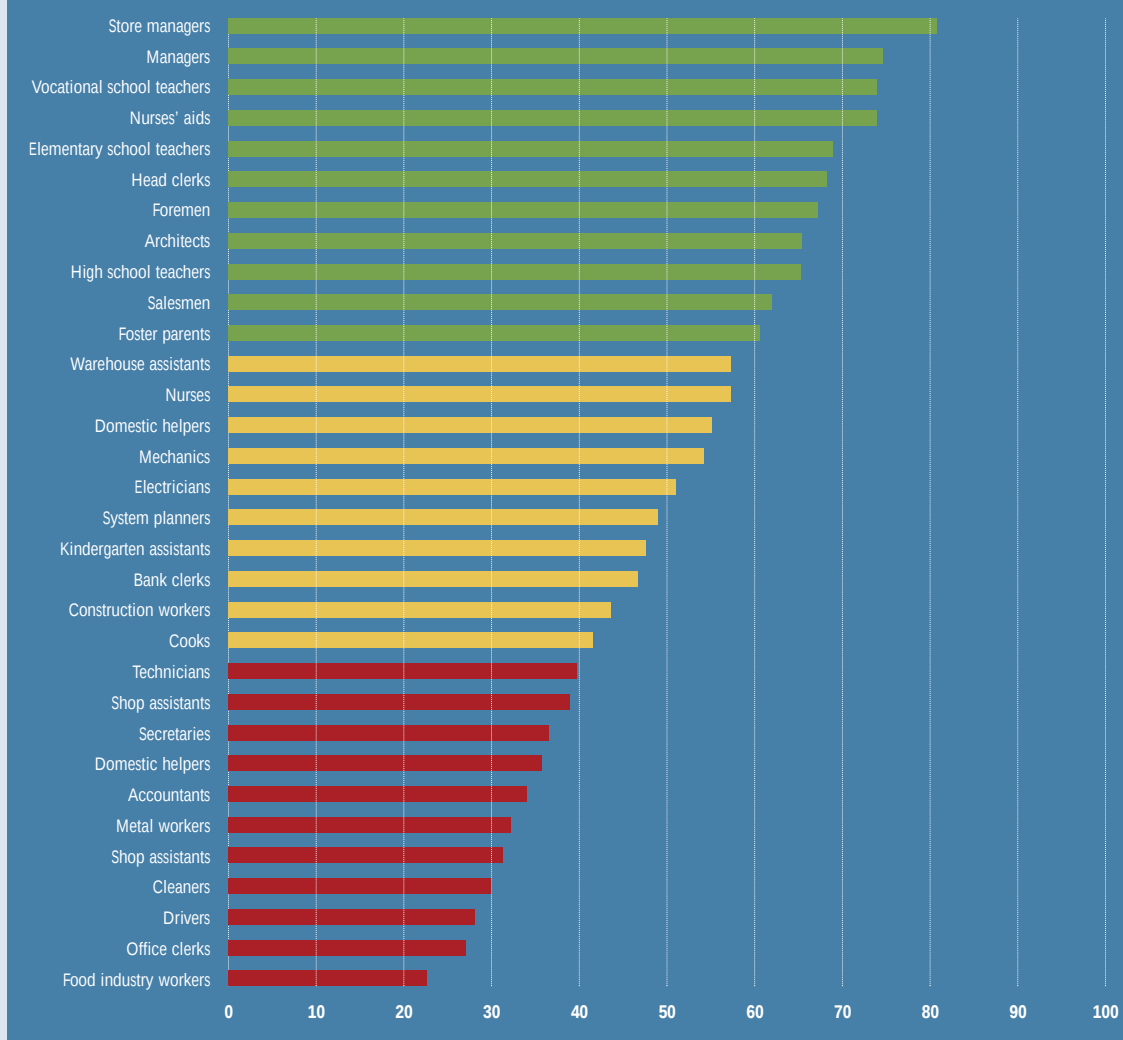
Figure 1 : Dimensions and number of questions in the Copenhagen Psychosocial Questionnaire – all versions (long, medium, and short)

Dimensions	Number of questions			
	Research questionnaire	Medium-sized questionnaire	Short-form questionnaire	
Quantitative demands	7	4	3	6
Cognitive demands	8	4		
Emotional demands	3	3	2	
Emotion concealment demands	2	2	1	
Sensorial demands	5	4		
Influence at work	10	4	3	10
Development opportunities	7	4	2	
Span of control at work	4	4	1	
Meaningfulness of work	3	3	2	
Commitment to the workplace	4	4	2	
Predictability	2	2	2	10
Role-clarity	4	4		
Role-conflicts	4	4		
Quality of leadership	8	4	2	
Social support	4	4	2	
Feedback at work	2	2	2	4
Social relations	2	2		
Sense of community	3	3	2	
Insecurity at work	4	4		4
Job satisfaction	7	4		4
General health	5	5		1
Mental health	5	5		5
Vitality	4	4		4
Behavioural stress	8	4		
Somatic stress	7	4		
Cognitive stress	4	4		
Sense of coherence	9			
Problem-focused coping	2			
Selective coping	2			
Resigning coping	2			
Number of questions	141	95	44	
Number of scales	30	26	8	

The medium-sized questionnaire for work environment professionals was developed in a computerised form in which all dimensions have a national average of 50. Values above 60 and below 40 are considered statistically divergent from the national average. Average scores are shown in yellow. Above-national-averages are shown in green, while the red bars represent below-average scores. Where the questionnaire is used to assess the psychosocial work environment of a workplace, each individual department, and the

whole workplace, can be compared with the national average on all 26 dimensions. It is also possible to compare jobs, age groups, pay systems etc. This version of the questionnaire is in use by the occupational health services (OHS), occupational health clinics and private consultants. All these professionals have been able to acquire the system (including the computer software) for the moderate sum of \$150. Figure 2 shows the distribution of jobs in the national sample on one of the key dimensions : Influence at work.

Figure 2 : An illustration of job distribution for one of the COPSOQ dimensions : Influence at work
(There were at least 20 respondents for each of the 32 jobs)



The short-form questionnaire can be used in workplaces not equipped with computers or even desk calculators. The points on each of the eight dimensions can be totalled manually to calculate average scores for departments or workplaces. A small pamphlet facilitates comparisons with national average

values. Workplaces wanting a more precise and comprehensive evaluation are encouraged to contact work environment professionals, who can give a more detailed picture of the work environment using the medium-sized questionnaire.

Results

The three questionnaires have now been in use for about two years. Almost all OSH practitioners and many other work environment professionals in Denmark are now using the system. More than 6,000 copies of the short-form questionnaire have been distributed free of charge, and it has been downloaded from the Internet by hundreds of users. We collect no data and have no system for monitoring users. The philosophy of the concept is for users to use the system as a means for dialogue and development at the workplace.

The researchers at NIOH cannot and do not wish to dictate the use of questionnaires in practice. We have, however, developed a number of "soft guidelines" for the use of COPSOQ :

- Never start a work environment survey unless there is a firm intention to take action if indicated by the results.
- All results should be anonymous and participation completely voluntary.
- The workers should have the right to see and discuss all results.
- The results of a workplace survey should be seen as a common tool for dialogue and future development – not as a school report or black marks list !
- All parties – workers, middle and senior management – should participate in and be committed to the entire process.

The National Institute in Copenhagen receives reactions, comments and questions about the concept almost daily, and many users have developed the system further for specific workplaces. We gain the clear impression that this system has been an unprecedented success. Researchers at the Danish NIOH and other institutions in Denmark have used the COPSOQ dimensions for many studies, which facilitates comparisons between different investigations.

We hope to be able to update the database for national comparison values in 2002 on the basis of a new national survey in order to maintain system validity and reliability. As part of that, we shall be looking into the possibility of developing benchmark values for specific industries and branches.

All the COPSOQ questions have been translated into English, and some into Japanese. Spanish, German and Flemish versions are under development.

Conclusions

The three-tier concept of the COPSOQ has been successful in improving communication between researchers, work environment professionals, and workplaces. The questionnaire seems to provide valid assessments of a broad range of psychosocial work environment factors. In Denmark, the NIOH has plans to develop similar instruments for other fields of research. ■

References

- *AMI's spørgeskema om psykisk arbejdsmiljø* (NIOH's questionnaire on psychosocial work environment), Arbejdsmiljøinstituttet, 2000.
- Kristensen, TS., Borg, V., Hannerz, H., "Socioeconomic status and psychosocial work environment. Results from a national Danish study", *Scand J Public Health*, 2001 (in press).

www.ami.dk/apss : shows the Danish version and average values for more than 30 jobs.
The English version of the questionnaire is available on the TUTB website :
www.etuc.org/tutb/uk/newsletter-stress.html