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What is This?

**ORIGINAL ARTICLE**

# Psychosocial risk assessment: French validation of the Copenhagen Psychosocial Questionnaire (COPSOQ)

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**Abstract**

*Aims:* This study presents a French version of the Copenhagen Psychosocial Questionnaire (COPSOQ) and analyses its psychometric properties for the purpose of validation. The questionnaire assesses psychosocial risk factors at work. The French questionnaire (derived from the Danish short version) is composed of 32 items grouped into 17 scales measuring five domains and eight additional questions assessing aggressive behaviour at work. *Method:* The questionnaire was administered to 935 employees of a large firm in the Parisian area. *Results:* All psychometric analyses performed (internal consistency of the scales, exploratory factor analysis, concurrent validity analysis) gave satisfactory results and demonstrated the validity of the French COPSOQ. ***Conclusions:* A new questionnaire is now available in French. A large body of data is currently being gathered in view of comparing occupations and types of firms using this new instrument.**

**Key Words:** *COPSOQ, occupational stress, psychosocial factors, psychosocial work environment*

## Background

The idea of psychosocial risks on the job is a recent concept in the eyes of the law French. The French Ministry for Labour [1] proposed the following definition of the psychosocial risks: "The psychosocial risks cover occupational risks which affect the physical integrity and the mental health of the employees: stress, harassment, professional exhaustion (burnout), violence in workplace … They can cause occupational diseases such as depression, psychosomatic diseases, sleep disorders, musculoskeletal disorders, cardiovascular diseases, and even cause occupational accidents." According to the Institut National de la Santé et de la Recherche Médicale (INSERM), the psychosocial risks appoint vast set variables in the interaction of the individual, collective, and organisational dimensions of professional activities from where their complexity and their often composite character arise. Work-related psychosocial risks concern aspects of the design and management of work

and its social and organisational contexts that have the potential for causing psychological or physical harm [2].

The implications extend beyond the individual employee and concern the work group and the firm as well. The challenge is to understand the individual at work in terms of his/her interactions with peers, superiors, subordinates, customers, users, and all other personnel that make up the employee's work environment. In addition to social-interaction risks, psychosocial risks also encompass interactions between the employee and the content and organisation of his/her job. The recent use of the term "psychosocial risks" translates a concern with this major phenomenon of the working world and its social repercussions. The increasing intensity and density of tasks, the use of new communication modes, and the growing number of demands led first to research on stress which has been widely

mentioned and studied among all other psychosocial risks.

Occupational health personnel are becoming more and more concerned by the large number and frequency of psychological problems and their adverse effects (psychiatric illness, episodes of major depression, anxiety disorders, burnout, addictive behaviour, post-traumatic stress, and suicide). The impact of job organisation on mental health was highlighted some years ago by a number of investigators in France [3–5].

Several theoretical approaches have been developed on psychosocial risks. Kompier [6] details the seven major models and compares them based on their content ("the way it relates to stress job characteristics and/or well-being and/or job satisfaction" p.430), their level analysis ("task, position, group or organisation" p.430), their opportunities to operate changes in working environment ("principles of possible job (re) design"), and their empirical characteristics. Therefore he presents a table (p.440) in which he connects these theoretical models and the dimensions of the psychosocial risks according to the job characteristics to which they refer. One can notice two things: (i) none of these models covers all aspects of the work environment; and (ii) these models have allowed the development of a number of tools (mainly survey methods and questionnaires), and few have been validated in French. There are only the questionnaires Demands–Control–Support by Karasek [7–9], Effort–Reward Imbalance by Siegrist [10, 11], and the Working Conditions and Control Questionnaire by Hansez [12]. The measurement of stress and especially the work environment seems relevant and easy to implement through self-reported responses from employees of companies involved. In regard to our occupation, we both needed a questionnaire highlighting more components of the psychosocial environment and a questionnaire more comprehensible than those currently available in France.

Therefore we have been interested in the Danish National Institute of Occupational Health works that meet those requirements. Indeed, researchers at the institute have developed the Copenhagen Psychosocial Questionnaire (COPSOQ), illustrated in the following [13]: "From the beginning it was clear to us that the questionnaire should be theory based but not attached to one specific theory (…). Thus, the COPSOQ I, which was developed around the year 2000 and presented in English in 2005, included most of the dimensions of the seven influential psychosocial theories reviewed by Kompier (2003) (p.149–150)".

The originality of their approach lies also in the other objectives set during instrument development [14, 15], and later achieved: (i) validation of the COPSOQ in three formats: a long version (for researchers), an intermediate version (for work-environment professionals), and a short version (for use in the workplace); (ii) availability of the questionnaire at the website and free access in order to enable international comparisons in the future; and (iii) facilitation of assessments and programmes conducted in the workplace. The COPSOQ is a generic questionnaire applicable to all types of industries and occupations. Since its validation in Denmark [16, 17], it has been adapted to English, German, and Spanish [18–20]. "Promising developments have taken place in counties such as Chile [21], China, Iran, France, Belgium and elsewhere" [13, p.153]. A second version of the original questionnaire (named COPSOQ II) has been elaborated according to feedbacks from workplace studies and recently validated [22, 23].

The purpose of the present study was to develop a French COPSOQ and analyse its psychometric properties. We decided to start with the short version, which is designed – as the middle version – for use in firms. Indeed, short version was chosen despite the reluctance of French companies to use a longer questionnaire. Nevertheless, it corresponds perfectly to our major interests, namely to assess psychosocial risks in the workplace, set up programmes to reduce them via consultation with employees and with the firm itself, and evaluate these programmes through follow-up cooperation with the company.

## Methods

### Questionnaire content

The French questionnaire was generated using the standard translation/back-translation procedure, i.e. the Danish and English short versions of the COPSOQ II were translated into French first, and then the two French translations were translated back into the original language [24]. The various versions were compared and the wording of the final French version was established.

The French COPSOQ is composed of 32 items from 17 scales representing four domains. Most of the COPSOQ II questions have five response options: "always, often, sometimes, rarely, never/almost never" or "to a great extent, to some extent, somewhat, a little, very little". The five response options were transformed on scores ranging from zero to 100. For the scales consisting of two items, scale values were calculated as the mean of the single items' scores. If one item was missing, no scale was calculated.

The Hospital Anxiety and Depression Scale (HADS) [25, 26] was added as a supplement to the COPSOQ items, and an item assessing current stress at work (10-point self-evaluation scale) [27]. These questionnaires are usually proposed to companies to detect anxious and depressive disorders of the employees and to give an indication of the measure of stress. They will allow us to measure concurrent validity of the Health score of COPSOQ.

### Study sample

The data was collected from a large French company of Aircraft industry located in the Parisian area. The current project is part of an ongoing cooperation with this company. A pre-test was run on about 60 persons to ensure the understandability of the items, scales, and instructions. After the pre-test, the final version of the questionnaire was proposed to all company employees. Testing was individual and computer-run: the questionnaire was available online to each employee and all company employees could have access using their personal login (the name of the persons does not appear). The approach was individual, voluntary and completely anonymous. Employees had 3 weeks to complete the questionnaire and received two recalls by mail during this time. The participation rate was 60%. The identification sheet was elaborated so that, in the statistical analyses, no criterion could group a number of participants lower or equal to 30 persons.

Six weeks after the end of data collection, results were first presented to the working group (occupational health doctor, labour representatives, human resources, etc.) which elaborated, in aid of the managers, a guide of communication resuming the essential results of the survey. These results were then broadcasted with all the coworkers via their immediate superiors.

The sample was composed of 935 employees, 29% of whom were women. The mean±SD age was 47.9±7.6 years. The job categories of the participants were as follows: 10% blue-collar workers (technicians), 14% white-collar workers, 50% middle management (junior executives), and 26% upper management (top executives). The most represented jobs in blue-collar workers and middle management were technicians and engineers.

## Results

### Internal consistency of the scales

We began by analysing the internal consistency of the 17 scales in order obtain an internal consistency

score for each one. In Table I, we present the reliability coefficients (Cronbach's alpha and intra-class correlation) of the Danish and German questionnaires with the short French version. We also indicate the average scores of scales common to French and German versions. Indeed, not all scales are identical in all three countries since German validation studies were conducted from medium and long versions of the Danish COPSOQ I.

The domains of the questionnaire were postulated to be the ones in the theoretical model used to validate the German COPSOQ I [22], itself derived from the Danish model. These domains are "Demands", "Influence-and-Development","Interpersonal-Relations-and-Leadership", "Strain (effects, outcomes)", and further parameters that grouped scales as "Work/Privacy conflict" or "Job insecurity" in the German version, for example.

### Exploratory factor analysis

We conducted an exploratory factor analysis (extraction of principal components, Eigen values greater than 1, Varimax rotation with Kaiser normalisation). The best solution has four factors and accounts for 65.4% of the variance, which is a very good result. Table II presents the matrix of the components after rotation.

The results of the factor analysis allow us to adjust the theoretical model proposed in the Danish and German studies to fit our data, as follows. The predictability, role-clarity, quality-of-leadership, social-support-from-supervisor, rewards/recognition, trust-regarding-management, and justice-and-respect scales assess the interpersonal-relations-and-leadership dimension (factor 1). The job-influence, possibilities-for-development, and meaning-of-work scales assess the influence-and-development dimension (factor 2). The self-rated-health, burnout, and stress scales assess the strain dimension – renamed "Health" – (factor 3). The quantitative-demands and work-pace scales assess the demands dimension (factor 4), to which the dimension work/family conflict scale is added in the factor structure resulting. The job-satisfaction scale is correlated to virtually equal extents to factors 1 and 2, which account for the interpersonal-relations-and-leadership and influence-and-development dimensions. It differs from an initial dimension "Strain (effects, outcomes)"and will be considered as a new field in the domain of effects/outcomes. We carried out a new factor analysis by requiring five factors: this analysis does not show the wide "Job satisfaction" as a factor (this is the first factor "Interpersonal-relations-and-leadership", which decomposes in two). Thus, we

Table I.   Reliability of the Danish, German, and French COPSOQ.

| Scale | Danish | | German | | French | |
|---|---|---|---|---|---|---|
| | Medium version (no. of items ($\alpha$)) | Short version (no. of items ($\alpha$)) | Medium version (no. of items ($\alpha$) ICC) | Medium version (overall mean±SD) | Short version (no. of items ($\alpha$) ICC) | Short version (overall mean±SD) |
| Demands domain | | | | | | |
| Quantitative demands | 4 (0.82) | 2 (0.70) | 4 (0.69) 0.36 | 54±21 | 2 (0.66) 0.49 | 53±21 |
| Work pace | 3 (0.84) | 2 (0.73) | – | – | 2 (0.69) 0.53 | 66±20 |
| Influence-and-development domain | | | | | | |
| Influence at work | 4 (0.73) | 2 (0.47) | 4 (0.64) 0.30 | 53±15 | 2 (0.54) 0.37 | 48±21 |
| Possibilities for development | 4 (0.77) | 2 (0.51) | 4 (0.73) 0.40 | 67±15 | 2 (0.55) 0.38 | 70±22 |
| Meaning of work | 3 (0.74) | 2 (0.65) | 3 (0.82) 0.60 | 77±19 | 2 (0.80) 0.67 | 74±22 |
| Interpersonal-relations-and-leadership domain | | | | | | |
| Predictability | 2 (0.74) | 2 (0.74) | 2 (0.75) 0.60 | 52±21 | 2 (0.70) 0.54 | 52±25 |
| Role clarity | 3 (0.78) | 2 (0.68) | 4 (0.83) 0.59 | 77±16 | 2 (0.87) 0.78 | 72±23 |
| Quality of leadership | 4 (0.89) | 2 (0.79) | 4 (0.89) 0.68 | 53±23 | 2 (0.85) 0.74 | 62±28 |
| Social support from supervisor | 4 (0.79) | 2 (0.76) | 4 (0.80) 0.50 | 65±20 | 2 (0.84) 0.72 | 61±26 |
| Rewards/recognition | 3 (0.83) | 2 (0.70) | – | – | 2 (0.82) 0.70 | 65±27 |
| Trust regarding management | 4 (0.80) | 2 (0.72) | – | – | 2 (0.76) 0.61 | 59±25 |
| Justice and respect | 4 (0.83) | 2 (0.72) | – | – | 2 (0.76) 0.62 | 53±25 |
| Strain (effects, outcomes) domain and further parameters | | | | | | |
| Work/family conflict | 4 (0.80) | 2 (0.82) | – | 45±28 | 2 (0.82) 0.69 | 37±22 |
| Job satisfaction | 4 (0.82) | 1 | 4 (0.69) 0.36 | 62±14 | 1 | 43±16 |
| Self-rated health | 1 | 1 | – | – | 1 | 42±18 |
| Burnout | 4 (0.83) | 2 (0.69) | – | – | 2 (0.76) 0.62 | 52±20 |
| Stress | 4 (0.81) | 2 (0.62) | 4 (0.85) 0.58 | 29±19 | 2 (0.71) 0.55 | 51±19 |

Table II.   Matrix of the components obtained via a factor analysis on the 17 scales.

| Scale | Interpersonal-relations-and-leadership domain | Influence-and-development domain | Strain (effects, outcomes) domain | Demands domain |
|---|---|---|---|---|
| Quantitative demands (2 items) | −0.13 | −0.12 | −0.05 | **0.79** |
| Work pace (2 items) | 0.04 | 0.23 | −0.01 | **0.76** |
| Work/family conflict (2 items) | −0.09 | −0.04 | −0.43 | **0.68** |
| Influence at work (2 items) | 0.22 | **0.65** | 0.15 | −0.34 |
| Possibilities for development (2 items) | 0.25 | **0.75** | 0.11 | 0.25 |
| Meaning of work (2 items) | 0.31 | **0.74** | 0.07 | 0.09 |
| Predictability (2 items) | **0.60** | 0.39 | 0.15 | −0.07 |
| Role clarity (2 items) | **0.71** | 0.35 | 0.02 | −0.05 |
| Quality of leadership (2 items) | **0.83** | 0.12 | 0.06 | −0.15 |
| Social support from supervisor (2 items) | **0.80** | −0.07 | 0.07 | −0.12 |
| Rewards/recognition (2 items) | **0.76** | 0.28 | 0.18 | 0.01 |
| Trust regarding management (2 items) | **0.71** | 0.29 | 0.15 | 0.04 |
| Justice and respect (2 items) | **0.72** | 0.09 | 0.26 | −0.03 |
| Job satisfaction (1 item) | **0.53** | 0.49 | 0.21 | −0.12 |
| Self-rated health (1 item) | 0.21 | 0.13 | **0.77** | 0.11 |
| Burnout (2 items) | 0.12 | 0.14 | **0.83** | −0.22 |
| Stress (2 items) | 0.20 | 0.08 | **0.67** | −0.43 |

The highest coefficients on each factor are shown in bold.

prefer to keep the analysis in four factors. So, "Job satisfaction" should be theoretically a second outcome dimension besides health-related outcomes (what will be confirmed with multiple regression analysis).

*Construct validity and discriminatory power*

Given that the scores obtained on the individual scales are designed to be used as measures for comparing employees, departments, occupations, and

Table III.   Results of multiple regression analyses.

| Predicted variable | $R^2$ | Domain significant independent variables (standardised β, $p<0.05$) |
| --- | --- | --- |
| Self-rated health | 0.19 | DEM: Work/family conflict (−0.23) |
| | | REL: Rewards/recognition (0.17) |
| | | INF: Possibilities for development (0.14) |
| | | REL: Justice and respect (0.11) |
| | | DEM: Work pace (−0.09) |
| Burnout | 0.30 | DEM: Work/family conflict (−0.43) |
| | | REL: Justice and respect (0.13) |
| | | REL: Rewards/recognition (0.11) |
| | | REL: Trust regarding management (0.10) |
| | | INF: Possibilities for development (0.10) |
| | | INF: Influence at work (0.09) |
| Stress | 0.36 | DEM: Work/family conflict (−0.37) |
| | | DEM: Work pace (−0.14) |
| | | REL: Justice and respect (0.14) |
| | | REL: Rewards/recognition (0.12) |
| | | INF: Influence at work (0.10) |
| Job satisfaction | 0.49 | REL: Rewards/recognition (0.19) |
| | | INF: Meaning of work (0.18) |
| | | DEM: Work/family conflict (−0.15) |
| | | REL: Trust regarding management (0.14) |
| | | DEM: Quantitative demands (−0.08) |

The first column contains the predicted variables; $R^2$ adjusted in the second column corresponds to models with significant predictors only; the third column describes the scales that play a significant role in predicting the dependent variable. DEM, demands; INF, influence and development; REL, interpersonal relations and leadership.

even companies, it seems useful to look at the ability of the scales to reproduce differences according to groups of people. First, we examine the scales that belong to the demands, interpersonal-relations-and-leadership and influence-and-development domains, which were the best overall predictors (i.e. for the whole sample) of health and job satisfaction. Then we will look at whether each one discriminates participants according to their gender and job category.

We conducted several multiple regression analysis to determine which scales (among the 13 scales belonging to the three domains under study, namely demands, interpersonal relations and leadership, and influence and development) best predicted the variables linked to health and job satisfaction (Table III). We note: (i) work/family conflict scale is found in all four analysis; this scale is the one that best predicted burnout, stress, and self-rated health; (ii) rewards/recognition scale also contributed to predicting all four variables under study; (iii) all three domains of workplace factors in the COPSOQ (Demands, Interpersonal relations and leadership, Influence and development) are represented in every analysis; (iv) four scales are not included as predictors in any of the four models: predictability, role clarity, quality of leadership, and social support from supervisor. These four scales belong to the interpersonal-relations-and-leadership domain. The $R^2$ values are similar in magnitude to those obtained in the German validation of

the COPSOQ I although we worked from the Danish version COPSOQ II.

The above analyses were conducted on the entire sample. Yet studies reported in the literature so far have shown that scores can differ according to certain variables such as gender, job category, and occupation. The questionnaire proposed to the 935 employees included questions about these variables. We analyse the ability of the COPSOQ to differentiate groups of persons according to gender and job category.

We have no strong assumptions about gender differences except on the health scales. Indeed, there are classically results in the literature relating to stress, anxiety, and depression [28] showing that women generally have higher scores on these three dimensions (when we take into account only the gender and not other variables, as the occupational category or the number of dependent children, for example). We can observe if we find similar results with scores of "Health" of COPSOQ. Analysis of variance (F(1, 933) = 6.4, $p=0.01$) showed that the mean scores of the men and women were significantly different on health: women obtain an average score (46.4±15) less satisfactory in health dimension than men (49.2±15.8). Analysis showed other differences between men and women such as the scale family/work conflict with a higher average score for men but this difference can be explained more by the

Table IV.   Average scores obtained on different scales regarding occupational category.

| Occupational category | Blue-collar worker/ technician (n=97) | Administrative (n=120) | Junior executive (n=475) | Top executive (n=243) | F(3,931) (p-value) |
|---|---|---|---|---|---|
| Work pace | 61±18 | 58±18 | 66±20 | 72±18 | 17.9 (<0.001) |
| Work/family conflict | 32±21 | 24±22 | 41±21 | 41±21 | 24.5 (<0.001) |
| Influence at work | 43±22 | 49±20 | 45±20 | 56±19 | 19 (<0.001) |
| Possibilities of development | 57±25 | 60±22 | 70±21 | 80±16 | 44.2 (<0.001) |
| Predictability | 45±24 | 49±25 | 51±24 | 60±25 | 13 (<0.001) |
| Rewards/recognition | 52±27 | 61±29 | 64±26 | 73±24 | 16.4 (<0.001) |
| Burnout | 50±19 | 52±21 | 51±19 | 56±19 | 4 (<0.001) |
| Self–rated health | 38±17 | 40±18 | 41±19 | 47±17 | 9.7 (<0.001) |
| Job satisfaction | 39±17 | 46±14 | 41±16 | 47±14 | 10.4 (<0.001) |

Values are mean±SD.

occupational category than gender. Indeed, at equivalent occupational category, there is not difference anymore between men and women.

Nevertheless we expect more differences according to occupational category. Analysis of psychosocial factors according to occupational category showed significant differences on 15 of the 17 scales (only the scales "quality of leadership" and "social support from supervisor" does not differentiate between occupational categories).

Thus, executives (top and junior) have higher scores than blue-collar workers, technicians and administrative on "Demands" scales and they believe they have more influence at work, development opportunities, and predictability in their work. Consistently, they admit to receive better recognition. Although senior managers consider themselves in better health than other categories of employees and are more satisfied with their work, they have a higher average score of burnout. Table IV shows other examples of these differences.

*Concurrent validity: link between the
COPSOQ and measures of anxiety, depression,
and stress*

The questionnaire proposed here to respondents consisted not only of the COPSOQ items, but also included the HADS Questionnaire [25, 26] and an item assessing current stress at work (10-point self-evaluation scale) [27]. In order to determine whether the COPSOQ health score is indeed a good measure of well being at work, we calculated correlations between this score and the anxiety, depression, and stress scores.

The health score correlations were: −0.72 with the anxiety score, −0.65 with the stress score, and −0.60 with the depression score.

The multiple regression analysis with "Health" score as the predicted variable and the anxiety,

depression, and stress scores as independent variables showed that these three scores predicted 60% of the variance, with the following weights: $\beta = -0.41$ for anxiety, $\beta = -0.26$ for stress, and $\beta = -0.19$ for depression.

## Discussion

The COPSOQ validation studies in other countries generally involve medium and/or long versions of the questionnaire. Furthermore, they are based on different versions of COPSOQ successively developed by Danish and other authors. For these reasons, we will be very prudent in analyses and comparison of our results with those described in the literature.

We are interested in the short version of COPSOQ II. Indeed, French companies have not the same culture regarding the questionnaire approach and employees are not used to responding to many items. We believe this study is the first step in a more comprehensive final validation of this questionnaire in French that could lead to the use of the medium version.

The 32 items that compose the short version of COPSOQ French are clustered into 17 scales. Table I shows the coefficients of internal consistency of each scale. We observe that the alphas derived from the items of the French version are the same order of magnitude as those of Danish and German versions. Some alphas are relatively weak but we must specify that the medium and short versions of Danish and German were not developed by focusing only on high alphas, but first and foremost based on the high content validity of the global instrument. Furthermore, it is well known that Cronbach's alpha is dependent on the number of item: it tends to be higher with a higher number of items. This explains and justifies the weakness of some alphas (calculated on two items only) and the fact that these alphas are the same size

in our study is consistent with convergence between the Danish, German, and French.

It should be remembered that the medium and short scales in the three countries are not necessarily made from the same number of items and that our data are from a single set of employees from one company. Nevertheless, we observe that the three scales with the highest average are identical for both countries: "meaning of work", "role clarity", and "possibilities for development".

The most important differences concern "stress" and "satisfaction at work" scores: the German employees have an average of the scale of stress weaker than the French employees in our sample, and conversely and consistently, the average scale "job satisfaction" is higher in the German study than in the French study. The averages of other scales are of the same magnitude in German and French studies.

The results of the factor analysis are also consistent with the Danish and German models and come to confirm the successive developments of the Danish original model. The different scales which compose "Interpersonal relationships and leadership" and "Influence and development" dimensions are stable and common to all three countries. The scale "Work/family conflict" was included in the German COPSOQ I. Our analyses shows that this scale belongs to "Demands" dimension. This result is similar to those obtained in the German validation [19] and the recent Danish studies [23]. Scale "job satisfaction" initially scheduled in the "Strain (effects, outcomes)" differs from this dimension while being dependent to "Interpersonal relationships and leadership" and "Influence and development" dimensions. It is also a result obtained by the German

studies: "Job satisfaction" is an "Outcome". The outcomes in the German standard version are divided into two dimensions: outcomes related to health (self-rated health, burnout, stress, work ability, etc.) and "Job satisfaction" which forms a separate dimension. We find exactly the same pattern.

The multiple regression analysis provides the opportunity to test the construct validity. Scales of the three domains of workplace factors (Demands, Interpersonal relations and leadership, Influence and development) are predictors of effects/outcomes. We can add that Job satisfaction, stress, and burnout can be explained better by workplace factors than general health; this result was expected.

Based on these findings, we can now propose a model of the relationships between the different domains measured by the questionnaire (Figure 1). This model reports general links between scales and domains. Indeed, the COPSOQ is a tool that is open to all employees regardless of their individual differences. Nevertheless, it may account for differences between groups of people depending on certain characteristics of the subjects.

We found a classic result in health: women have lower health scores than men. We also observed that 15 of the 17 COPSOQ scales differentiate employees according to occupational category as the expected direction. Blue-collar workers, technicians (who are not managers), and administrative staff should receive lower scores on scales relating to Influence and development ("influence at work", "possibilities of development") and Interpersonal relations and leadership ("predictability", "rewards/recognition"). Managers should show higher scores in Demands ("work pace", "work/family conflict") and Job satisfaction. These analyses show the ability of the
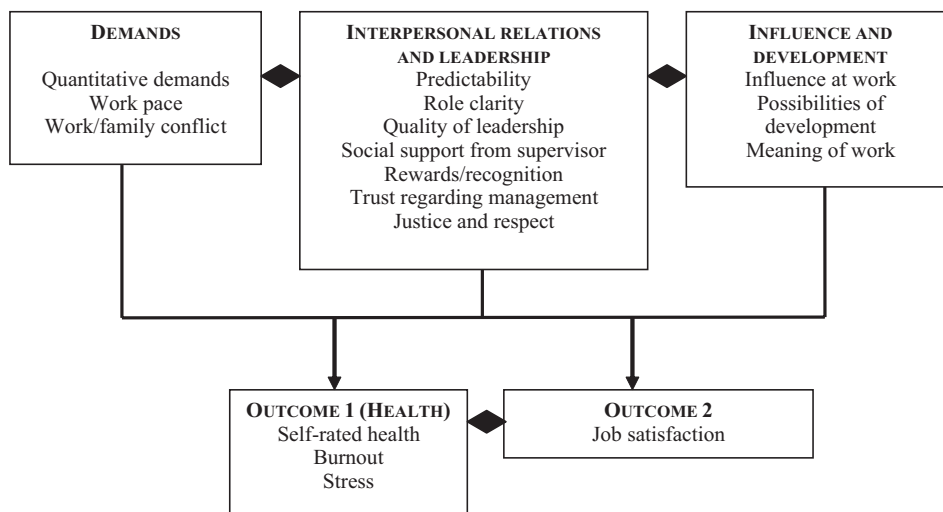


Figure 1.   Model of the relationships between the different domains of the French COPSOQ

questionnaire to differentiate groups of employees. Nevertheless, these results cannot yet be generalised to these professional groups. They represent only a particular company in a specific industrial sector.

Finally, analysis on correlations between the COPSOQ Health state measure and scores on other scales to evaluate anxiety, depression, and stress show the ability of the questionnaire to identify symptoms of anxiety, depression, and stress. In addition, scores of anxiety, depression, and stress are all significantly correlated as expected with different scales and dimensions of COPSOQ: high anxiety, stress, and depression are related to high demands, low support, and influence and vice versa.

### Conclusion

The primary purpose of this paper is to present a new French instrument for assessing a number of psychosocial risk factors and to observe whether the structure of this questionnaire is consistent with that of its peers in Denmark and Germany. It seems to us that this is the case. Nevertheless, the presented analyses should be regarded with caution and as a first step. Indeed, the number of items per scale and the scales themselves are not the same in other countries' COPSOQ versions. Comparisons can therefore only be partial.

Furthermore, data collected are from only one company can be considered a homogenous group and characteristic part of its industry field. Nevertheless, the principal demand of the company generally concerns internal comparisons: differences between professions, departments, age groups, etc. in order to identify the risk groups and to set in arrangements (often qualitative) remediation. This approach also allows observing the changes from year to year.

Although the Danish authors consider that the short version of COPSOQ allows a less scientific approach, it is what the company chose. Since that first study, more and more French companies are using this questionnaire. The initial philosophy of the Danish authors (standardised questionnaire, testing guidelines, free) that we approve and which we've joined helps overcome the reluctance of certain actors within companies about the psychosocial risk assessment questionnaire.

The approved qualities of the instrument allow us to continue our research and work towards our primary objectives. Thus, we have more and more data from companies of various sectors which will enable us to adjust the validation analysis of the short version of COPSOQ. The creation of such a database will allow comparisons between large companies and

the establishment of French standards. In addition, we have initiated collaboration with health services that work with small and medium companies (which are not subject to the same regulations concerning psychosocial risks than large companies) to collect data by industries and trades.

Finally, we have to state the process of validating the medium version of COPSOQ. We are currently in the final phase of translation/back translation and we'll soon offer this new version to a sample of employees as part of a pre-test.

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