

Measuring organizational settings' impact on employee health

Introduction

In previous studies, we identified organizational settings to be important in creating healthy work environments. Our earlier studies on Sweden's physicians found that participating in management programs did not improve a positive work environment other than reducing absenteeism due to sickness (von Vultée *et al.*, 2007). Those employees who ranked being seen by their managers; i.e., having contact with their supervisor and top managers, having authority and being able to make decisions regarding work tasks; e.g., positive organizational settings, reported higher scores on different personal development factors. Organizational support improved work satisfaction, mental energy and decreased work-related exhaustion (von Vultée *et al.*, 2007). This means, organizational settings are important for employee wellbeing and satisfaction at work, however organizational change's impact on individual wellbeing is difficult to measure (Ruotsalainen *et al.*, 2015).

In Sweden, there were more sick leave days in the late 1990s compared with other Nordic countries. Sweden had twice as many sick leave days than Finland and 33 per cent more than Norway, Denmark and Iceland, even though the social system was more beneficial in other Nordic countries (Selenius and Ahonen, 1995). The Swedish Social Insurance Agency (Försäkringskassan) reduced the total reimbursable sick days taken by employees between 2000 and 2010; but since then sick leave has been growing in Sweden; mostly due to women with psychological problems such as stress-related diseases and depression (Figure 1).

In 2013, the Organization for Economic Co-operation and Development (OECD) stated that nearly 20 per cent of Sweden's workforce suffers from mental illness, one in five workers report problems with anxiety, depression or sleep disorders. Young people are particularly vulnerable. Nearly one in four aged between 16 and 18 years suffers from psychological disorders. The OECD (2013) report estimates the economic costs to be over seven billion Euros a year in lost work and healthcare expenditure. This is equivalent to nearly 3 per cent of Sweden's gross domestic product. It is suggested that increasing sick leave is partly due to work environment (Rydh, 2014). We also know that after three months sick leave, people are at risk of prolonged absence and will eventually be left outside the labour market (Gjesdal *et al.*, 2004). It is therefore important to identify health risks at an early stage to prevent sickness, which leads to suffering and higher societal costs.

The study's purpose, therefore, was to develop a method to identify healthy workplaces. We extracted the results from the Physicians Work Environment and Health study (von Vultée, 2004). The main task was to identify how organizational parameters affect individual wellbeing, notably mental energy, work-related exhaustion and work satisfaction. In this study, we used a method to show how wellbeing among employees is correlated to work environment. A questionnaire was created from different organizational questions. The mental energy, work satisfaction and work-related exhaustion results are reported and in all three indices, the strongest and the weakest factor are identified. Managers can then eliminate weak areas or strengthen the strongest. In this study, the questionnaire was distributed twice among tax advisor employees. This organization was undergoing an

organizational change and had recently recruited several new employees. Managers noticed different reactions among employees to this new situation and searched for a method to identify actual organizational problems and to be supportive during the organizational change.

Method

Using data from the “Physicians Work Environment and Health” study, we explored the quality, work and competence indices (social climate, skills development, mental energy, work-related exhaustion, self-esteem, participation, goal clarity, efficiency, feedback, workload and leadership) including four new indices created for our research: work satisfaction, influence, authority and contact with supervisor (von Vultée, 2004). Then we merged all individual questions such as support from work colleagues, social climate, work atmosphere, relation to co-workers, workplace satisfaction and different psychological factors into a stepwise multiple linear regression analysis to identify the best predictive model for new indices: mental energy, work-related exhaustion and work satisfaction. Statistical significance was set at $p < 0.05$. A general linear model for repeated measures validated qualitatively the new indices using:

- Sickness absenteeism.
- Should be on sick leave, but is not.
- Is your work too demanding?
- Do your colleagues accept that you can have a bad day?
- Have you experienced physical fatigue during the last month?
- Have you experienced psychological fatigue during the last month?
- Have you seriously thought about a career change?

We found a linear correlation between all these statements/questions and the new indices, which were then tested against organizational questions: leadership, contact with immediate supervisor, participation, influence, authority, goal clarity, efficiency, feedback, team support, development, skills learning and workload. Results showed that organizational parameters had a major influence on these individual indices. The new questionnaire identifies different organizational factors leading to healthy or unhealthy work places based on respondents’ answers. This helps managers to intervene and prevent employees from developing mental illness due to work environment issues.

The multiple stepwise regression analysis detected 19 questions that were significantly related to mental energy; 26 questions to work-related exhaustion; and 20 questions to work satisfaction. In all these indices could affect an item either positively or negatively even if all questions were phrased positively. For example “Do you have the amount of influence you need in work” had an impact on all three indices but in different ways: on the mental energy index it had a weight of -0.12 ; on the work-related exhaustion index, $+0.07$ and on the work satisfaction index, $+0.04$. The question “My colleagues are supportive” had an impact on two indices: on the index work-related exhaustion it had a weight of -0.14 and on the work satisfaction index, $+0.04$. The question “I receive feedback on my performance from my supervisor” had an impact on the index mental energy (weight -0.38) and on the work-related exhaustion index, $+0.11$. The question “My immediate supervisor is

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emotionally supportive when I need it" only affected the mental energy index (weight +0.13).

We found that work satisfaction seemed to be more powerful than the other two factors; i.e., if work satisfaction was high then mental energy tended to be higher and work-related exhaustion lower. The questionnaire was tested first on healthcare personnel. To find out if the questionnaire would be useful in other organizations, we tested it on organizations such as tax advisors, employees at an advertising agency and at a children's daycare centre, and in leadership programs in co-operation with Karolinska Institute's educational programme. In total, 435 individuals completed the questionnaire. The survey results were validated qualitatively using interviews with 44 employees. We asked:

1. Were the questions relevant in your opinion (97 per cent answered yes)?
2. Were the results relevant in your opinion (96 per cent yes)?
3. Do the test results confirm your actual situation (98 per cent yes)?

We also validated the survey results using interviews with 12 managers. All managers answered yes on the questions above. We called this new questionnaire Munik (www.munik.se). We calculate values on three different scales: mental energy, work-related exhaustion and work satisfaction. The work-related exhaustion scale is inverted. In [Figures 2 and 3](#), results are reported in three different bars showing actual level in the group: green (all is fine), yellow (alert) and red (something has to be done). The breakpoint for each field in the bar is formed from 256 subjects ([von Vultée, 2004](#)). The bounding horizontal limit line in the background ([Figures 2 and 3](#)) indicates where the group sits in the field – low or high; i.e., are the group results strong (being in the upper level in the green field) or are the results moving toward another area; e.g., lower green field). If the group as a whole sits in the green area then the bar will be green and if they are in the yellow area the bar will be yellow, etc. Results from all individuals are reported with a bounding horizontal limit line – the variable line, which helps us to identify if some employees are in the yellow area even though the group as a whole is in the green area. All personnel provide an e-mail address as their user login and they get a password either by e-mail or by post. When employers end the survey, personnel get their results immediately to their e-mail address. Managers get the results one day later. The survey can be done at different group levels; e.g., gender, age and different wards.

Results

Results showed that organizational parameters had a major influence on individual indices. The new questionnaire identifies different organizational factors leading to healthy or unhealthy work places based on questionnaire answers. This gives managers knowledge on how to intervene and to help prevent employees developing mental illness due to work settings. We show the results from the tax advisor group as an example how Munik works. Results are shown at the group level with a bar for each index and a vertical variable line that shows variability in the group. Every index then explains which question contributed to the high or low scores. On mental energy, the whole group was in the green zone but the variable line shows that some employees reported mental energy in the yellow zone. On work-related exhaustion, the group was in the green area and almost no one was at risk of

developing work-related exhaustion. The variable line is within the green area, but the entire group was in the lower green field. Work satisfaction was yellow and only a few people were in the green area, shown by the variable line (Figure 2).

From the first Munik survey results, we found that statements/questions “I am satisfied with my work and colleagues” and “Do you have opportunity to learn new skills in your work place?” were strong factors in mental energy. The statement “I lack information on how to perform work” was the weak factor in the mental energy index. The statement “I thrive at work” and “I am satisfied with my work” were the strong factors in work-related exhaustion and the statements “The organization is not clear” and “Colleagues are not supportive” were the weak factors on the work-related exhaustion index. “Is your workplace harmonious” and “Are you getting clear information” were strong factors in work satisfaction. The statements “I receive clear work directives from my immediate supervisor” and “Do you have time enough for your work tasks” were the weak factors in the work satisfaction index (Table I).

After work environment improvements were made and the newly employed reported they received clearer directives, a second measure was taken three months later. All employees reported higher levels on two from three bars (Figure 3).

On the second measure, we found no difference in mental energy. The work-related exhaustion index rose after the first survey, but the change was small. However, work satisfaction rose markedly; i.e., all personnel were in the green zone. The question “Do you thrive at work?” was a strong factor in mental energy and “Lack information on how to perform work” remained the weak factor in the mental energy index. The statement “I thrive at work” was the strong factor in work-related exhaustion and the “Organization is not clear” was the weak factor in this group. On the work satisfaction index “The positive atmosphere/harmonious workplace” remained a strong factor and “The information needed for work from immediate supervisor” remained the weak factor. All participants received an in-depth interpretation; they were able to identify outliers and inliers; i.e., if several people had homogenous results then they were called “inliers”, meaning that all personnel revealed the same problem, or if the group had heterogeneous answers then the group was diverse and reported problems on different levels in their work situations.

Discussion

Our study aimed to find a tool to measure workers’ mental energy, work-related exhaustion and work satisfaction. Creating a positive work environment is important in Sweden since sick leave days are rising, resulting in greater costs for Swedish tax payers. It is likely that work environment factors are the reason for this increase and hence it is important to identify work risks to be able to work proactively with people at risk. We studied 435 people in different workplaces to identify which factors in the organization and work environment create healthy workplaces. The Munik method identifies work satisfaction and dissatisfaction and highlights the contributing factors. Consequently, managers can strengthen employees’ work environment. In this study, we report two surveys conducted in a tax advisor agency to show how Munik is used. The first survey was done before a work environment improvement intervention and the second survey three months after. The intervention focused on the negative impact factors, “Lack of information on how to

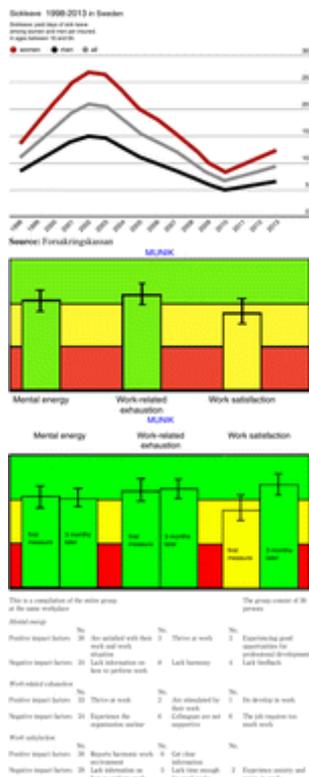
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perform work”, “Unclear organization” and “Information from immediate supervisor”. The intervention was performed via a two-day conference on these themes. The intervention increased work satisfaction, indicating that relatively small interventions are needed to increase group wellbeing. We suggest that organizations going through organizational changes such as downsizing or other work disturbances can at an early stage identify employee’s health and satisfaction in work.

The questionnaire is anonymous and personnel create an e-mail account to get a password by e-mail. The employee gets his/her results via e-mail. The survey takes 15 minutes to complete and can be performed for different groups with a breakpoint for different wards/gender/age, etc. We found in the tax group that it is important to improve areas such as: how to perform work and supervisors ensure clear work directives. In the second survey, the benefits following organizational improvements were shown as higher work satisfaction following a three month intervention. Munik is a relatively easy way to identify work structures, identify employee mental state and job satisfaction. Munik can also identify positive and poor work environment factors. This gives managers a simple and inexpensive tool to improve the work environment for all employees. If managers undertake the survey every third month then they get timely information about changes in the organization and an early awareness of any employee at risk.

This paper will show the need to create and maintain healthy workplaces in social terms to keep employees satisfied and decrease work-related exhaustion that causes poor health. It also shows that detecting risky work environment factors and creating a healthy workplace is relatively easy when the organizational and social situation is defined.



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