Applicability of survey feedback for an occupational health method in stress management

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The main stressors in work organizations have been determined in the research on mental stress. This has prompted occupational health personnel to actively look for new tools in reducing stress. However, only a few workplaces have implemented action models for health promotion by reducing stressors. The aim of this project was to investigate the applicability of survey feedback for an occupational health method of stress management. The survey feedback process, which has been one of the main approaches in organization development, was applied for stressor reduction. The employee’s commitment to the programme was confirmed by participation. The occupational health personnel were responsible for carrying out the programme. The project was carried out in selected departments of one factory of an international paper company. On the basis of the survey feedback, the departments made changes in their action models, environment and instruction and guidance systems. According to the follow-up in one department, the variability of work increased, and overall mental and physical strenuousness decreased. The OH personnel shifted their working model towards more active co-operation with the work units. Today the survey feedback is a routine method of the occupational health service of the company.

Key words: Health promotion; occupational stress; Occupational Stress Questionnaire; stress management programme; stressor reduction in occupational health care; survey feedback.

INTRODUCTION

Health promotion by stressor reduction

Research on mental stress at work has emphasized the importance of prevention. However, where preventive measures such as health promotion and stress management programmes have been applied, individual behaviour and coping strategies have been the focus instead of changing the work environment and organization. Only a few workplaces have implemented health promotion activities based on the reduction of stressors.

A combination of the individual and the environmental approach in health promotion is probably most effective, but the individual approach alone has been suspected to create an ethical risk of ‘weeding out’ the employees or ‘blaming the victim’. Also, the effectiveness of the individual approach in the long run has been questioned. However, drawing conclusions on the effectiveness of different approaches is difficult because of the heterogeneity of the methods, designs and even targets of the programmes.

Maintaining the tradition of modifying individual behaviour may have been in the interest of the professionals. According to Ivancevich et al. the professional ‘interventionists’ — the counsellors, physicians and clinicians — are more comfortable with changing individuals than organizations. Also the psychologists have been more interested in human response and action than in situational factors.

Van der Hek and Plomp reviewed the published studies on the effects of occupational stress management programmes. They found only 24 studies published between 1987 and 1994. Only two of them evaluated interventions on the individual—organiza-
tional interface level and two on the organizational level.1

The role of employees as planners of their own working conditions is considered important in ergonomic design15 but more rarely in the health promotion/stress management literature. In organization development and job redesign, the participation of employees in the planning, implementation and evaluation of changes has been considered crucial for successful change. The employee's control over his situation is important for his well-being as well.11

According to Fielding's survey4 in the USA, 26.6% of worksites with over 50 employees offered stress management activities. Of these worksites, 81.2% included organizational changes in their activities, but these were classified as nonparticipative, like the training of supervisors. Group classes and workshops were the most common participative activities. Environmental and organizational changes were considered employer activities.

Positive experiences in co-operation with outside experts and on applying environmental and organizational approaches have been gained in research projects on health promotion,16,17 but it is difficult to maintain health promotion as a routine activity in an organization. According to Fielding's survey4 the worksites with health professionals were more likely to have some type of stress management activity and/or of longevity.

Role of OH personnel in stressor reduction

The role of OH personnel in organization-oriented health promotion may be problematic. The statement 'Let's keep our white coats and stethoscopes'18 reflects the importance of professionalism and the role of the OH personnel. Getting involved in managerial and labour relation conflicts creates a threat to professional identity and ethics. However, work redesign and organizational development have been considered effective measures in stressor reduction.19

The role of OH personnel in stress management is developing strongly in Finland, where traditional occupational health hazards are relatively well controlled, although not overcome. The change in the action models of OH personnel has been seen as unavoidable because of the growing need to control psychosocial factors at work.11 On the other hand, new professional demands arouse scepticism among some of the OH professionals themselves, among the management and other organizational bodies. In addition to these sceptical attitudes, the lack of feasible methods and models may be one reason for the difficulties in managing work stress. The methods should be simultaneously valid, concise and simple to use.

In Finland, the Occupational Health Care legislation of 1978 obligated employers to take into consideration, in the monitoring of health hazards, even potential factors causing mental strain. Consequently a checklist method for the monitoring of mental stress factors was developed.20,21 However, improving the work environment was difficult on the basis of the monitoring result. Although the monitoring was easy, the commitment of the organization members to the changes was sometimes low.

The Occupational Stress Questionnaire (OSQ)22,23 was developed to help the OH personnel survey the psychological work environment, its developmental needs and employee stress, and to involve the respondents in a feedback discussion in order to initiate improvements in stress-reduction.

Approaches and tools for stressor reduction

Elkin and Rosch19 summarized possible organization-directed strategies in stressor prevention; these include redesign activities, participative and supportive management, role and career development, establishing goals and cohesive teams, flexible working hours and employee policies. The case studies on stress at work have had different approaches inside organizations.24,25

The main themes of these studies have dealt with the establishment of participatory systems and increasing individual control over one's own situation. In some cases the improvements have been started in the whole organization simultaneously, which makes the management of the process difficult.16,26 In other cases the starting point has been local improvements, in which the management of individual conflicts and increasing co-operation need much consideration. Also a specific profession has been a starting point for stress management.27

The survey feedback has been one main approach in organization development. Diagnosing the situation of the work organization, and the relationship of the employee to his or her task and environment is the starting point for improvements. The survey feedback can be applied also in small work units, and can thus start development from local changes. This approach helps initiate improvements only if the organizational and social change process has been planned carefully (Figure 1) and 'the interventionist' has consultative skills.

Schein28 observed that the skills needed in the human-processual approach to organization development are analogous to those of a therapist. As early as the 1950s, face-to-face discussion, not the survey technique, was the key to constructive change according to the studies of Mann.29

As a method, survey feedback involves every respondent in the change process, in which both expectations and frustrations arise. This may also affect the traditional forms of participation in the organization. Direct participation in the feedback discussions forms the basis for commitment and the assumption of responsibility for the improvement of the work and environment. The work units and the foremen carry the main responsibility for improving their own situation, but the OH personnel could have an active role in supporting this work and the continuity of health promotion.
Aim of the project

The aim of this project was to investigate the applicability of survey feedback for an occupational health method in stress management.

The research questions were: (1) Is the survey feedback process feasible for reducing stressors in a work unit? and (2) Is the survey feedback applicable for an occupational health method?

The reduction of stressors was planned to be a two-phase process, where (a) the researcher-consultant supported the OH personnel in developing a practical action model or (b) the OH personnel supported the superiors and employees of the participating work units in reducing stressors.

The task of the research-consultant was to structure the process, and the OH personnel assumed the responsibility of carrying it out in the factory. The strategy of local changes was combined with support of the internal 'consultants', i.e., the OH personnel. This project can be defined as a demonstration project applying case study methodology with multiple data collection, and combining quantitative and qualitative data for evaluation.

METHODS

Data

In an international paper company the board of directors appointed an internal expert group to clarify the possibilities of enhancing the mental well-being in the company. The initiative was taken on the basis of the renovated safety legislation, in which the employer is obligated to plan the work and the work environment in a way that is not harmful to the physical or mental health of the employee. The expert group consisted of the representatives of the management, OH personnel, safety personnel and union members. On the OH physician's initiative the group decided to probe the survey feedback process. An outside researcher-consultant was involved in a one-year process in which a model survey was carried out in one factory.

The employees of three departments (n = 118) of a carton-producing factory (600 employees) participated in the model survey (Table 1). The problems of the units were not specified in advance. The Office, Machine and Finishing departments were selected to represent different work units as regards work content and personnel structure. The post-measurements were carried out in the Finishing department. The culture of the factory was traditional for the industry, including a typical union and management contradiction.

A three-day training programme for the 25 OH physicians and nurses of the company's seven factories was started simultaneously with the model survey. The training concentrated on the survey feedback as a method, and on the process-centred consultative role of the OH personnel in co-operation with the work units.

Between the three training sessions, the OH personnel started their own projects in their own areas. These projects were used as training material. The training programme also offered an evaluation forum for the survey feedback. Curative services, health examinations, health education and preventive monitoring of the working conditions had been OH activities since 1950 in the target factory.

The survey feedback method

The survey was carried out using the Occupational Stress Questionnaire, which was originally developed to help the OH personnel assess stress problems and development needs. The comprehensive version covers the areas of sociodemographics (six items) perceived work environment (35 items), factors modifying stress (seven items), response to stress (four items) and the need for work development and individual support (four items).

The reliability and validity of the items of the questionnaire have been investigated with various methods in several research projects of the Finnish Institute of Occupational Health since 1977. Different sets of questions have been investigated to find the most effective single questions to measure different conceptual dimensions. The aim in the development of the questionnaire was to keep it concise and appli-
cable as a routine tool, including understandable feedback of the results to the employees. The comprehensive version (56 items) and supplement on developmental needs (14 items) were applied.

The feedback of the survey results was given to the work units and shifts in 10 sessions, organized to reach the natural work teams and to also give the shift workers the possibility of participating immediately before or after their working hours. Participation was voluntary, but the company paid compensation for everybody who participated in these 1.5 h sessions. The employees were involved in a discussion, the aim of which was to concretize the survey results and set developmental aims. Emphasis was placed on aims that could be reached through the superiors' and employees' own efforts. The aims were defined separately for the three departments. The supervisors of each department were also given the feedback in advance.

Evaluation of the project

In the planning of this development and research project, a general model of the phases of organizational and social change was applied (Figure 1). The evaluation of the project was based on quantitative and qualitative data.

The post-measurements were carried out three years later in the Finishing department, where the participation in the original survey was low and the most effort was needed to activate the employees to initiate changes. In this department the development of team cohesiveness and assuming responsibility for the work environment were emphasized.

The qualitative interviews charted the opinions of the planning group members, of the company's OH personnel and of the department directors, concerning the new model of OHS in health promotion and satisfaction with the survey feedback method. The employees' opinions were surveyed by the OH personnel during routine monitoring of the workplaces and during health examinations. The factors observed were the changes in work content and environment of the departments and in the action model of the OH personnel.

RESULTS

Survey results and content of the feedback

According to the survey results, mental strenuousness was perceived as high in every department. Simultaneously, autonomy was high. In the Finishing department the variability of the work was low (Figure 2).

Differences between the departments were statistically significant in variability \((\chi^2 = 18.08, \text{ df } = 8, p < 0.02)\) and physical strenuousness \((\chi^2 = 17.63, \text{ df } = 8, p < \)

Figure 2. The perceived content of work in the three departments (I = Office, II = Machine, III = Finishing), and the post-measurement results in one department (IV = Finishing) (original scale 1–5 was reduced to 1–3, percentage of respondents).

<table>
<thead>
<tr>
<th>Developmental need</th>
<th>Department</th>
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<tbody>
<tr>
<td>More detailed information about changes</td>
<td>Office</td>
</tr>
<tr>
<td>More discussion between superior and employees</td>
<td>60</td>
</tr>
<tr>
<td>Training to develop work skills</td>
<td>68</td>
</tr>
<tr>
<td>Slacker work pace</td>
<td>25</td>
</tr>
<tr>
<td>Training for superiors</td>
<td>11</td>
</tr>
<tr>
<td>Revising accepted procedures</td>
<td>37</td>
</tr>
<tr>
<td>Development of personnel co-operation</td>
<td>33</td>
</tr>
</tbody>
</table>
0.02). In the Finishing department the variability increased during the follow-up period (χ² = 10.7, df = 4, p < 0.03). The overall mental and physical strenuousness decreased during the same period (χ² = 16.5, df = 4, p < 0.002 and χ² = 10.1, df = 4, p < 0.04 respectively).

According to the pre-measurements the most useful means of developing one's own work in every department were 'more detailed information about changes' and 'improvements in the superior-subordinate communication' (Table 2). However, the views on the content of information and communication varied according to the feedback discussions.

Perceived changes in the departments and the role of the OH personnel in them

Several actions were taken on the basis of the feedback discussions (Table 3). The OH physician and nurse took an active role in supporting the improvements. The actions were different in the three departments:

The Office department decided to improve their co-operation, and ordered a special training programme for superior–subordinate discussions for goal setting. As an indirect result, the working conditions improved. In this case the OH personnel's role was to integrate the expertise between the company's training centre and the office department.

The Machine department implemented a permanent meeting system for handling the suggestions made on the basis of the survey. The OH nurse was the secretary of the group. The role of the OH personnel was in this case to support and offer information to the group.

The Finishing department concentrated on improving housekeeping and co-operation. Starting the actions was difficult in this department. The supervisors had to interview every worker to boost their motivation for the reorganization. A group was set up to promote the improvements. The group worked for two years. The OH physician had an important role in supporting the work unit in carrying out their developmental aims.

The project concentrated on improvements which were possible to carry out locally in the work units. The discussions on the development aims were restricted only by an initial instruction. This was sufficient to exclude from the discussions such general recommendations of Elkin and Rosch like the establishing of flexible working hours, establishing employee policies and sharing the rewards, which need higher level decision making.

The survey feedback as an OH method

According to the interviews of the participating OH personnel, the consultative support in face-to-face discussions, in expert group meetings, in the OH training sessions and in the feedback sessions helped in:

- scheduling of a survey feedback process;
- informing and involving all relevant groups in the test of the new model for stress management;
- giving feedback and participating in the interpretation of results and in setting goals and
- finding the proper degree of directiveness during the process.

The critical phases of the survey feedback process were:

**Negotiations and information.** After the process was negotiated and accepted by the expert group, emphasis was placed on the oral and written informing of the employees. High participation, especially in the office and machine departments, illustrated good motivation and confidence in the goals and procedures of the project.

**Feedback.** At the beginning of the survey feedback sessions, an outside researcher–consultant was considered necessary to present and interpret the results, as well as to limit the discussion to the interpretation of the results and the unit's goal setting. Only very general comparisons between departments were presented, because comparisons seemed to divert the discussion from the goal setting. The giving of feedback was transferred from the outside researcher–consultant to the OH physician during the process. The OH nurse was the secretary of every feedback session.

### Table 3. Organization-directed strategies applied in the departments. Listed according to the classification by Elkin and Rosch

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Office</th>
<th>Machine</th>
<th>Finishing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redesign of task</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Redesign of work environment</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Encourage participative management</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Support the employee in career development</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Analyze work roles</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Establish goals</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Give social support and feedback</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Build cohesive teams</td>
<td>X</td>
<td>X</td>
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</tr>
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</table>
Initiating change. The level of the OH personnel’s directiveness was considered in detail. On the one hand, the work units needed support, but on the other hand, they had to take over the responsibility for the improvements themselves. After the feedback, the OH personnel had to ensure the continuity of the process and participate in planning meetings in the departments. The assumption of a new role was necessary for the OH personnel as well as for the other members of the organization.

Other observations
The project encouraged some employees and supervisors to contact the OHS with their personal work stress problems. In general, the content of the discussions during the health examinations shifted more toward work-related problems than it had previously. Thus the project also contributed to individual stress management.

Although the responsibilities and roles had been discussed, defined and accepted in advance, some problem areas could still be identified. The OH personnel expressed the need to clarify:

- the roles of the superiors and of the OH personnel in consultative co-operation;
- the role of the OH personnel concerning the clients’ expectations and sharing resources for the traditional work and stress management;
- the union representatives’ role in direct participation of the employees in health promotion and
- the roles and responsibilities of the OHS and safety and human resource organizations in health promotion.

After the project, the OH personnel felt that they were more aware of the conflicting expectations of different interest groups and were better able to recognize and cope with them. The readiness of the work units to participate in the search for new forms of co-operation and participation in the stressor reduction had improved.

DISCUSSION
Feasibility of the survey feedback for reducing stressors
The variability of the work increased in the Finishing department, which was a positive result for that kind of work. Also the overall mental and physical strenuousness decreased in this department. In the other departments the employees’ participation in the planning and implementation of changes probably increased their possibilities of controlling their own work situation. This has been considered the most important factor in reducing work-related stress.6,11

The improvements suggested by the members of the work units supported productivity, demonstrating the importance of meaningful and effective work for well-being.

Positive changes towards stressor reduction were based more on the feedback process than on the exact diagnostic results of the survey. This corresponds well with earlier experience on survey feedback as an organization development method.55,26 However, surveys carried out with questionnaires help the participants to structure their subjective feelings by giving relevant concepts for discussion of their stress and by giving hints on how to reduce it.

Managerial decision making might profit more from detailed statistical comparisons between work units, but significant differences are seldom found between small groups. When the aim is to initiate improvements, the unit of analysis must be small enough to be concrete, but on the other hand, it must be large enough to guarantee the anonymity of the individual respondent.

Quantitative evaluation of changes in real organizations is difficult for many reasons. Repeated measurement of perceived stressors raises expectations of improvements, which have to be responded to. Even when post-measurements have been carried out, the diversity of simultaneous planned and unexpected changes in an organization complicates the drawing of conclusions. For example, during the time of this project the sickness absenteeism rates were reduced in many Finnish organizations. This was probably due more to the economic recession and fear of losing one’s job than to the overall improvement of work environments in Finland.

In a follow-up design, even the phase of the change process may have an impact on the evaluation result. In the short term, mental stress may increase when work is restructured. In the long term, the result may nevertheless be positive. The planning of the human process in the change is essential.35,36 Direct observation or questioning of perceived changes seems to be a practical and sensitive alternative for post-measurements in psychological and social changes.36

Applicability of the survey feedback for an OH method
The utility of a method can be evaluated according to the criteria recommended in the evaluation of a taxonomy:14 Does the method promote communication between the researchers and practitioners, does it assist heuristically in solving problems, how much time is required to learn the method, what are the costs of implementing it, and what is the usage rate or the degree of acceptance of the method? After the model survey, feedback discussions and the OH training programme, the final decision was made to include the OSQ in the routine methods of the OHS of the whole company.
At the end of the survey feedback and training project, the OH personnel of the factory felt that they had found a new way to manage stress. The training of the OH personnel of the whole company contributed to the launching of corresponding activity in other factories. In the long term, this created a good basis for developing the work of the OHS at the company level. Today the work units of the company can order from the OHS ‘an investigation on the development needs at work’ carried out with the help of the Occupational Stress Questionnaire. The post of a co-ordinating ‘health promotion secretary’ (OH nurse) was established in the OHS. A future challenge to the OHS personnel of the whole company contributed to developing the work of the OHS at the company. In the long term, this created a good basis of the OH personnel of the whole company contributed to developing the work of the OHS at the company. In the long term, this created a good basis for the OHS ‘an investigation on the development needs at work’ carried out with the help of the Occupational Stress Questionnaire. The post of a co-ordinating ‘health promotion secretary’ (OH nurse) was established in the OHS. A future challenge to the OHS personnel of the whole company contributed to developing the work of the OHS at the company level.

The central problems in initiating improvements in the work units are the superior’s role and commitment, and activating a passive work unit. The role of the superiors remained vague during the process, which may reflect the role ambiguity of the superiors or lack of support for them during the process. A new research project was initiated on the superior’s role in improving the psychological work environment.

In many cases the OHS have been active in initiating stressor reduction programmes, but their involvement in the programme itself has been minor. Developing further the definition of the ‘client’ and ways of taking initiative in conducting survey feedback is important for the future role of the OHS. Also responsibility and co-operation in carrying out the improvements needs to be elaborated. However, the survey feedback process carried out by OHS offers possibilities to overcome some of the observed obstacles in stressor reduction, e.g., involving employees and all relevant parties in the process, and ensuring continuity of the process in an organization.

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