Marginalisation and Exclusion From the Labour Market

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The programme revolves around four concepts. Even relatively minor changes in technology, the job and the organisation of work involves changes in the demand for work-related skills and their status. The rate of change is far higher than normally assumed. This is mainly because the extent of daily (micro) changes is overlooked. All changes mean that some (previously highly valued) skills become redundant, while others are in less demand. These changes tend to diminish the standing of elderly and disadvantaged workers, increasing the risk of marginalisation.

Cost of changes

Background
Denmark is now facing a problem common to virtually all the industrialised countries: That of an ageing workforce. An increasing number of workers are being excluded because of health problems. Typically these are multifaceted in nature, difficult to diagnose and virtually impossible to treat. Also, elder workers prefer early retirement. This behaviour is not limited to unskilled workers, as skilled workers and professionals show the same disposition. Because of relatively high level of economic growth there are now bottlenecks in many branches and the problem is increasing. Why is it that workers start to plan early retirement as early as in their late 50's?

The general explanation
For more than 20 years there has been a surplus of workers in virtually all employment sectors. Employers have grown accustomed to the luxury of a "use and throw away" policy. Many employers prefer to hire young people with required qualifications, rather than trying to increase the qualifications of those already employed. Also elder workers are at much more risk of losing their job when companies need to scale down the workforce.

Young workers in particular have reacted to this effect. Research has shown that younger, skilled workers prefer "shopping around" for better wages, work and working conditions, as opposed to staying in the same job. The "cynicism" of employers is reflected in the "cynicism" of younger workers. We believe that a similar process takes place among elder workers, causing a change in their work-identity and attitudes, with the result that they willingly seek early retirement, contributing to their own exclusion from the labour market.

The process of (self)-marginalisation
Through this process elder workers experience a loss of status; a process which they subsequently tend to internalise. This internalisation leads to an identity in which elder workers see themselves as peripheral not only to the work itself, but also to the social environment. They resign and many apply for early retirement at the earliest possible opportunity. We believe that a similar process takes place amongst workers who seek early retirement for health reasons. One of the reasons that reinstating workers with health problems in the labour market has proven very difficult is that these workers do not believe this to be a viable option. In both cases retirement involves a considerable loss of income, but especially in the case of early retirement for health reasons.

Micro-marginalisation
An important explanatory factor is a previous process of micro-marginalisation. Micro-marginalisation is a process in work, involving a change of status of the work itself, and the social environment. Each change demands new and different demands for qualifications and skills. In general this process favours younger more flexible workers and puts elder and disadvantaged workers in an inferior position. Mature workers, used to a position of authority because of their acquired skills, suddenly find that their skills have become redundant or are less in demand. They have to go through a prolonged period of learning, while younger workers often already possess the required skills, or are much faster in acquiring them. Elder workers standing in the working-community often suffers as a consequence. From seeing themselves as persons of authority and special abilities, they gradually come to think of themselves as disadvantaged in relation to learning to master new skills.
We suggest the following. This process is proportional to the rate of changes. It is not only for changes in work-related skills in the traditional and narrow sense have this effect, but also “soft skills”, such as the ability to function in an environment requiring a higher level of social skills, such as co-operation, exchange of information etc. Finally, we suggest that this process is mirrored in the dispositions of management in relation to (especially) elder workers. We also suggest that the rate of such changes is much higher than is generally assumed.

The study
The study introduced here is one of seven longitudinal studies within a research programme that started in 1996 and will be finished in 2001. This programme is a collaboration between The University of Aalborg, Department of Occupational and the Institute of Social Research. The study involves a company of more than 700 employees in the textile industry. During the last 5 years the company has introduced a number of extensive changes, including the introduction of flexible working hours and self-governing work groups, as well as new technology that demands the acquisition of new skills. The study is carried out within the framework of the SIFER method (the Study, Involvement, Feedback, Evaluation and Reorientation).

The study involves two phases. The first phase was carried out in 1998-99, It involved an organisational study, on the basis of qualitative interviews with members of management and workers. In this process a basic questionnaire was adapted to local conditions, and subsequently the questionnaire study was carried out in 1999. The second phase started in 2000. In this phase, every worker that has left the company from May 1999 to April 2001 will receive a follow-up questionnaire 12 months after leaving the company. The results reported here are based on the first questionnaire study, 70% of the employees participated. The results have been validated in a feedback phase involving representatives of management and workers.

Results

Daily changes
The participants were asked if any changes had occurred in the organisations of work during the two years previous to the study. 86% gave one or more examples of changes. 53% reported changes in the organisation of work, new machines and technology and in the work process itself. Such changes surpasses the management’s estimates. The results were validated in the feedback phase, leading management to conclude that the extent and implications of daily changes had been underrated. This result concurs with other studies in the research programme.

Increasing pressure
These changes involve increasing demands and pressure on the workers which were reported as follows:

- Increase in the number of skills (80%)
- Improved quality of work (59%)
- Increased flexibility (70%)
- Increased pace of work (56%)
- Increased complexity of job functions (72%)
- Improved concentration (71%)
- Increased physical demands (26%)
- And an increase in the number of psychological demands (50%).

With regard to the results, it should be noted that the 2 year reference period is that which was regarded by management and representatives of workers as a period of limited changes and stabilisation.

Groups, teams and the social environment
One of the most radical changes in the period prior to 1997 was the introduction of teams and work-groups. 57% of the workers found this a positive factor while only 15% saw this as a negative development. In this context, it is interesting that even if 30% of the workers found that the social environment had improved throughout the period, 26% found that developed in a negative direction.
Threatened workers

One third of the workers (32%) stated that a number of colleagues experienced increasing difficulty in keeping up with increasing pace of work. A similar number stated that flexible hours (shift-work) had made it difficult for a number of co-workers to maintain a fulfilling life outside work. One out of five (19%) stated that the introduction of work groups has caused problems for a number of colleagues.

The workers were asked if there are colleagues in their department having difficulties in keeping up with the demands of work as a consequence of the changes of the last two years. 37% percent state that elder workers and immigrant workers are worse off. When asked if they knew of colleagues that had to leave the workplace because they could not keep up with the increasing demands, 42% stated that they know of individuals that have had to leave, and 13% stated that a number of colleagues have had to leave. This means that more than half of the workers (55%) know of such cases. In this case it is especially interesting that 87% of the workers state that there is need for lenient jobs (41% reported that there is an important requirement for such jobs). When asked if they think that they themselves might need such a job during the next 5 years, 44% responded affirmatively.

Daily changes and marginalisation

The follow-up study is in the process at the moment. According to information from the company one out of five employees have left the company during the period from May 1999 to April 2000 inclusive. This is probably due in part to changes in the economic climate. Some of those who have left are seeking better employment.

The study has documented that daily (micro) changes involve a substantial increase in demands made on workers. The current rate of changes in the organisation of work might well contribute to increasing marginalisation of workers in the labour market in the near future.
The Outcomes and Seriousness of Reported Violent Incidents

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The detection of patterns within violent incidents is vital for designing effective interventions to reduce the risks to staff from work-related violence. The authors maintain a large database of incidents that occurred in British bars and pubs, and use a variety of methods to identify such patterns. The analyses emphasise the treatment of each incident as a developing situation, in line with theoretical considerations. Previously published research using this database has developed logical pathway modeling to detect common sequences of events through incidents, and has detected a system memory effect in the timing of incidents at the same premises (Beale, Clarke, Cox, Leather & Lawrence, 1999; Beale, Cox, Clarke, Lawrence & Leather, 1998). The present paper provides results of hierarchical multiple regression analysis exploring the relationship between features and events that occurred during the incident, and the physical outcomes of the incident. In addition, the analysis examined the seriousness score given to the incident by the members of staff involved, in terms of the features, events and physical outcomes.

Introduction

Violence in public houses and bars poses a significant threat to the health and safety of staff and customers as is demonstrated by a variety of national statistics. In the United States, the rate of workplace homicide for bartenders is over three times the national average for workers in general (Jenkins, 1996). In addition, the National Crime Victimization Surveys (Warchol, 1998) show that, for 1992-1996, bartenders experienced the fifth highest rate of assault and threat (91 out of every 1000 workers attacked) exceeded only by police, security and prison staff, and taxi drivers.

The 1992 British Crime Survey (Mayhew, Aye Maung, & Mirrlees-Black, 1993) revealed that 16% of incidents of violence occurred in pubs and clubs. Statistics from the 1992-1998 British Crime Surveys (Budd, 1999) indicate that publicans and bar staff were more likely to have experienced physical violence than any other workers apart from the police and those in protective services, social workers and probation officers.

Such statistics provide an impetus for research to learn as much as possible about the characteristics of violent incidents in licensed premises in order to reduce the problem. In particular, it is important for pub and bar managers, their staff and their employing organizations to have available as much information as possible to help them manage the problem effectively.

Method

Reports of 1983 violent incidents that occurred between 1992 and 1999 were taken from the Keeping Pubs Peaceful Incident Report System that operated within Allied Domecq Retailing (ADR), which ran 4,000 pubs and bars in the United Kingdom, spread throughout England, Wales and Scotland. The reporting system, established by the authors, was an integral part of ADR's on-going procedure for monitoring problems in its retail outlets.

The working definition of violence used for the reporting system included non-physical as well as physical violence: "Any behaviour deliberately intended to damage staff or customers (or pub/brewery property) either physically or psychologically (through abuse or threat)."

When a violent incident was reported in one of ADR's managed houses, a security manager interviewed the pub manager and other employees involved, either during a visit to the premises or over the telephone. The staff and the security manager then completed the 4-page Keeping Pubs Peaceful Incident Report Form (KPP IRF) and forwarded it to the authors who extracted over 230 variables and entered these into the database.

Regression analyses were based on (i) features of the pre-existing situation and the persons involved, and (ii) progress through incidents, comprising initiation, development and culmination, i.e. the most serious aggressive or violent action, and (iii) the physical outcome. Hierarchical multiple regression was chosen to allow the predictor variables to be entered in blocks according to progress through the incident. The regression equations for the physical outcome variables involved four blocks of predictor (independent) variables related to:
Block 1. Person and pre-existing situational variables
Block 2. Initiation
Predictor variables to enter into the regression equations were determined by Pearson correlation between them and the various outcome (dependent) variables relating to physical injury and damage. Variables showing correlation significant at the .05 level were used as predictor variables.

Analysis relating to the seriousness score was conducted using a similar procedure. A fifth block of predictor variables was included, relating to the physical outcome.

**Results**

The regression equations accounted for 50% of the variance for injury to staff, 44% for injury to customers, 16% for injury requiring medical attention and 29% for damage to property.

Two features that emerged from the regression equations for the physical outcomes were intervention by members of staff and the role of weapons in incidents. Intervention was seen to have a beneficial effect on injury to customers but a detrimental effect on injury to staff. The involvement of weapons had two distinct types of influence on the outcome. The presence of weapons brought into the premises (entered in Block 1) actually decreased the likelihood of injury to staff, while objects from the premises being used as weapons (entered in Block 3) had a detrimental effect on injury requiring medical attention, injury to customers, and damage to property.

The features of incidents that had a positive effect on the seriousness score included injury requiring medical attention, weapons being brought in, objects from the premises being used as weapons, the number of assailants, the involvement of drugs, an attack on staff and whether the attack was pre-planned. However, the whole regression equation accounted for 22% of the variance.

**Discussion**

Intervention by staff was seen to be an important feature that can alter the progress of incidents. Enhanced procedures should be introduced to safeguard staff when they intervene in problem situations. Staff should also receive further training in methods of intervening safely and effectively (Leather, Beale, Lawrence & Maxwell, 1996).

Weapons were seen to have two distinct effects. Weapons that were brought into the premises were often “real” weapons such as knives. These were seen to have a negative effect on physical outcome but a positive effect on the seriousness score. There are two likely explanations. First, staff report the presence of “real” weapons whatever the outcome because they recognise the potential for serious harm. Second, when such a weapon is produced it may be that other people become more cautious so preventing the problem situation escalating into an actual physical attack.

The more frequent occurrence of objects from the premises being used as weapons had a more detrimental effect on the physical outcome. The implications of the findings concerning weapons are that staff need to be aware of the damage that can be done by ordinary objects, such as glasses, bottles, ashtrays, furniture and decorative items, and to monitor their premises continually to minimise the availability of potential weapons. Further, injury can be severe even when weapons were not involved so that caution is required in all problem situations not just those where weapons are in evidence.

The main conclusion regarding the seriousness scores was that the seriousness of an incident to those involved should never be assumed from the physical outcome alone. Although this was important, many other factors were seen to be important, including the potential for harm. This has important implications for the care of staff following apparently minor incidents. In particular, managers should not assume that, because little injury or damage was caused, an incident was insignificant and had little effect on the staff. If it was thought serious enough to report then the staff probably need some type of support from the organisation (Leather, Lawrence, Beale, Cox & Dickson, 1998).

**References**


Job Control Mediates Change in a Work Reorganisation Intervention for Stress Reduction

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Introduction
For years, occupational health psychologists have advocated modifying aspects of the work environment that are associated with unhelpful stress-related outcomes (i.e., mental ill-health, job dissatisfaction, absenteeism, and poor work performance) (e.g., Newman & Beehr, 1979; Quick et al., 1997). Largely, this wide-ranging call for work reorganisation has gone unanswered (e.g., NIOSH, 1996). Certainly, there is a lack of methodologically sound, empirical research that has investigated this strategy for reducing and preventing mental ill-health and productivity problems. The reasons for this dearth are unclear (although work reorganisation interventions are time consuming and difficult to carry out). An unlikely explanation, however, is a lack of theoretical guidance for work reorganisation programmes.

In particular, occupational health psychology theories posit a number of work characteristics that may affect stress-related outcomes. The one that is identified most ubiquitously appears to be job control, or the extent to which people have discretion and choice in their work (Parker & Wall, 1998). Hackman and Oldham’s (1975) job characteristics model, the sociotechnical systems approach (e.g., Cherns, 1976; Emery & Trist, 1960), action theory (Hacker et al., 1968; Frese & Zapf, 1994) and Karasek’s (1979) demands-control model of occupational stress all hypothesise that providing people control over their work serves to improve stress-related outcomes.

In line with these theories of work control and employee well-being, Terry and Jimmieson (1999) note, in their review of this research literature, that there appears to be “consistent evidence” that high levels of worker control are associated with low levels of stress-related outcomes, including anxiety, psychological distress, burnout, irritability, psychosomatic health complaints, and alcohol consumption (p. 131). Such stress theory-concordant findings are welcome, as many field-based, work reorganisation outcome studies use the promotion of job control as a core strategy for attempting to improve stress-related outcomes (e.g., Corderoy et al., 1991; Jackson, 1983; Landsbergis & Vivona-Baughan, 1995; Murphy & Hurrell, 1987; Pierce & Newstrom, 1983; Wall & Clegg, 1981; Wall et al., 1986).

Indeed, the primary goal of the work reorganisation intervention, described here, is to increase the job control of UK central government civil servants, in an effort to improve stress-related outcomes. This field experiment differs from previous ones with the same goal, in that ours (i.e., Bond & Bunce, submitted) uses statistically and methodologically rigorous methods to assess whether or not the intervention improves stress-related outcomes, as an express result of increasing people’s job control. Such direct assessment is necessary, as interventions of all kinds can be effective for reasons other than those intended (see Bond & Bunce, 2000). Furthermore, the present outcome study is fairly unique in that it tests the effectiveness of a work reorganisation programme using a longitudinal, quasi-experimental design.

As just noted, the hypothesis that a work reorganisation intervention can improve stress-related outcomes by increasing people’s job control has not been examined previously, using methodologically and statistically rigorous methods. Further, there is very limited research that even tests the extent to which work reorganisation initiatives can improve stress-related outcomes, using a longitudinal, quasi-experimental design. Those that do exist (e.g., see Griffin, 1991; Jackson, 1983; Landsbergis & Vivona-Baughan, 1995; Schaubroeck et al., 1993; Wall et al., 1986) do not provide very encouraging results. In that, it appears very unusual to find any significant improvements in stress-related outcomes at a final observation point; and, when such improvements are found, they seem to centre around job satisfaction-related variables (e.g., intrinsic job satisfaction (Wall & Clegg) and supervisor dissatisfaction (Schaubroeck et al.).

One reason for these less than optimal outcomes may concern the process by which changes were instituted in these studies of work reorganisation programmes. With the exception of Landsbergis and Vivona-Baughan (1995), none of the programmes allowed employees to influence greatly the types of changes that were going to occur. Cahill et al. (1995) note that the process of change is as, if not more, crucial than the change itself, and both should be consistent with each other. Thus, if the goal of a work reorganisation intervention is to achieve greater job control, then the process by which that goal is realised should be influenced by the people who the change shall affect. One work reorganisation strategy
that allows for such influence in the change process is participative action research (PAR) (Schurman &
Israel, 1995), a method that only Landsbergs and Vivona-Baughan have employed, in a longitudinal
quasi-experimental design. Although their PAR intervention was not successful, we employ this strategy
for our work reorganisation programme, as it is considered the preferred method for such change
programmes (e.g. Karasek, 1992).

To summarise, this study attempted rigorously to test whether or not a PAR intervention could
improve stress-related outcomes of UK civil servants, by increasing their job control. To put it another
way, we examined whether or not job control served as the mechanism, or mediator, by which our PAR
intervention improved stress-related outcomes. According to Baron and Kenny (1986), a mediator (e.g.,
job control) is a mechanism through which an independent variable (e.g., PAR intervention) influences a
dependent variable (e.g., mental health). Consistent with occupational health psychology theories (noted
above), we predicted that job control would mediate any improvements in stress-related outcomes that
occurred, as a result of the PAR intervention.

Method

Participants
Ninety-seven administrative employees (males = 61) of a UK central government department participated
in this quasi-experiment. These participants were located in a division of 121 people that handled the
department’s financial planning, auditing, business strategy, and procurement concerns. Fifty-seven
percent of participants were between 37 and 55 years old, and 6.2% were over 55. Forty-three percent of
people were university graduates, and 51% could be classified as “middle management”. Ninety-two
percent of participants worked full-time, and 67% were married or cohabitating.

Measures
Occupational Stress Indicator (OSI; Cooper et al., 1988): The OSI is a comprehensive measure of job
stressors and strain. For the purposes of this study, we employed three of its scales to assess stress-related
outcomes. These were job satisfaction, physical ill-health symptoms, and mental ill-health. To help
identify work organisation factors over which our intervention could increase job control, we used the
sources of stress scale. Time 1 (pre-test) and Time 2 (post-test) alpha coefficients for the OSI scales that
we used were all acceptable and ranged from .84 to .95.

Job Control (Karasek et al., 1985): This variable was measured by the three decision authority
items on the job decision latitude scale, from the Job Content Questionnaire (Karasek et al.). Previous
research by Smith et al. (1997) indicate that, whilst decision authority is a measure of job control, skill
discretion, a construct measured by separate items on the job decision latitude scale, is not.

Self-rated performance: This one item-scale was on a seven-point Likert-type scale that runs
from “very poorly” (1) to “extremely well” (7). The item read: “How well do you think that you have
performed in your job, recently?”

Absenteeism: Personnel records of number of absent days per year, per person, due to self-
reported sickness.

Procedure
The week in which all participants completed the above measures for the first time is referred to as Time
1. In all, there were two observation times, with the second one (i.e., Time 2) occurring 12 months after
Time 1. At Time 1, we used a matched-randomisation procedure to assign the participating division’s six
units either to the PAR group or a wait-list control group. This procedure resulted in both groups being
matched in terms of sample size (PAR = 48, Control = 49), number of units (3 each), and unit sizes (each
group had one unit under 10 people, one unit between 10 and 20 people, and one unit between 25 and 40
people). Thus, this study constituted a quasi-experimental control group design that closely approximated
a pretest-posttest control group design (Campbell & Stanley, 1963).

During the week following Time 1, we informed units as to whether they were in the PAR or the
wait-list control group. During that same week, we sought volunteers from the PAR group to participate
on a steering committee. Twelve people volunteered to sit on the committee (seven women), and, as
desired, volunteers had a wide range of job titles and grades. This author and an “in-house” organisational
psychologist facilitated each of the five, two-hour committee meetings that occurred during working
hours, over a three month period, beginning one month after Time 1.

The primary aim of the meetings, and PAR, was for committee members to develop and
implement work organisation changes that might increase people’s job control and, thereby, improve the
stress-related variables in their units. To help them identify areas over which to increase work control, we
noted that, based upon Time 1 data collected from the 3 units in the PAR group, there were several
aspects of work organisation that were associated with stress-related outcomes. Based upon these findings, their experiences, and their priorities, committee members decided to develop proposals and action plans to increase workers’ job control over three problem areas: assignment distribution procedures, within-unit consultation and communication, and informal performance feedback.

In accordance with PAR, committee members offered everyone in their respective units opportunities to discuss and influence the proposed work reorganisation strategies, before they were finalised and implemented. Each unit in the PAR group met the committee’s goals of having two work reorganisation strategies implemented, by the beginning of Month 5 of the project. One such strategy that each unit in the PAR group implemented was a formal procedure whereby every unit member was able to recommend and comment upon ways that their tasks were grouped, assigned, and fulfilled. In each unit, this type of involved participation and control was very innovative. Each of the three PAR units also implemented a unique work reorganisation strategy, in order to provide people with job control over specific aspects of work. For example, one of the units devised a very brief “email feedback form” that could be sent to people’s supervisors, if they were unsure about how they accomplished a task. This worker initiated request for information provided people with fast feedback that could quickly shape any task behaviours and prevent problems and worries from building. Line supervisors agreed to respond to received forms, twice weekly.

Results
Due to participant attrition, and consequent listwise deletion, the Time 2 observation period had the following group sizes for the self-reported variables, PAR = 27, Control = 26, down from Time 1 sizes of 48 and 49, respectively. Thus, the attrition rate was 56% and 53%, respectively. For the absenteeism data, obtained from personnel records, the Time 2 observation period had the following group sizes, PAR = 46, Control = 43. This decrease from Time 1 of 2 and 6 participants, respectively, resulted from turnover. Chi-square and ANOVA analyses revealed no significant Time 1 differences on any biographical, mediator, or outcome variable, between participants who dropped-out and those who remained in the study. With the Time 2 sample size for the self-report variables, there was an approximately 70 percent chance of detecting medium-sized main and interaction effects for the Group (PAR and Control) and Time (1 and 2) variables, using a two-tailed alpha level of .05 (Cohen, 1988).

Repeated measures ANOVA analyses of the one-year, follow-up data indicated that the PAR intervention significantly improved people’s mental health and self-rated performance, as compared to a wait-list control group. At this follow-up, PAR group members had significantly better mental health and self-rated performance, than did control group members. Furthermore, in the PAR group only, absenteeism rates fell significantly from the year ending Time 1 to the year ending Time 2. This fall resulted in a significant Time 2 difference in absenteeism rates between the PAR and Control groups; a difference that did not exist at Time 1. According to Cohen’s (1977) specifications, all of these six significant differences were of a medium magnitude.

A principal aim of this research was to identify the extent to which variation in job control explained the significant interaction effects for mental health, absenteeism, and self-rated performance. For, such analyses allow us to test occupational health psychology theories that suggest that work reorganisation interventions can improve stress-related outcomes by increasing job control. Using the regression equations recommended by Baron and Kenny (1986), we found that, consistent with these theories, mental health, absenteeism, and self-rated performance improved, because the PAR intervention increased people’s job control. In other words, it appears that job control was a powerful mediator by which the PAR intervention improved these stress-related outcomes.

This study makes two important contributions to the occupational health psychology literature. Firstly, it appears to be the first longitudinal, quasi-experiment to demonstrate that a work reorganisation intervention can significantly improve mental health, self-rated performance, and absenteeism, at a final, follow-up observation point. Furthermore, it is the first study to examine the mechanisms by which such an intervention produced its improvements, using methodologically and statistically rigorous methods. Obtaining knowledge of intervention mediators is important, as it can be used to make these programmes more efficacious (e.g., Bond & Bunce, 2000).

Despite the generally encouraging findings from this study, we did not detect any significant improvements for job satisfaction and physical ill-health symptoms, as a result of the PAR intervention. This only serves to underline the clear need for further outcome research, in order to understand better how work reorganisation interventions can best affect these and the other stress-related outcomes examined in this study.
References


Negative and Positive Affective Experiences of Interactions Between Leaders and Employees – an Interview Study of Managers Within the Swedish Public Sector

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Almost all research on coping has focused on coping with negative events. However, little is known about coping with positive events or positive affects. To explore the occurrence of positively and negatively perceived events and positive and negative emotions, and investigate how these were handled, an interview study was undertaken using a sample of seventeen senior managers. Negative events and emotions dominated. The managers interviewed identified only a few instances that dealt with experiences of success or progress. None of the executives appeared to have an explicit or implicit system for accounting for good events relating to themselves.

Introduction

The work of Richard Lazarus established through the ideas of appraisal the processes of meaning, evaluation and dealing with threats related to stress (see for example Lazarus, 1991, for a comprehensive treatment). This dominantly cognitive process of acting on events perceived to be threatening, in order to avoid harm or stress, is now termed coping. An earlier theory, dealing with aspects of this process from a psychodynamic point of view, is found in the writings on defence mechanism by Anna Freud and other followers of Sigmund Freud. In a more recent theory put forth by Arne Ohman the base is evolutionary theory originating from Darwin. In spite of their obvious differences, all have in common dealing with negative events, appraised as potentially harmful to the organism, either psychologically or biologically.

In contrast, there is very little theory or empirical research that focuses on dealing with positive events. Early work on dealing with positive experiences can be found in the work of Langston (1994). In brief Langston argues that both positive and negative events have direct and indirect effects: they take place within social contexts, where the interaction between different interpretations of those persons present is important. The effects have specificity: negative events tend to reinforce negative outcomes, positive events positive outcomes. With regard to positive events, the term capitalizing takes on the same meaning as the use of the term coping in relation to negative events. Langston has convincingly argued that the degree of capitalizing is determined by both the level of perceived control over the positive event (for example whether the event was of your creation) and the degree of expressive reactions (acknowledging the positive event).

Another approach to research on positive experiences is based on what is called flow theory (see for example Csikszentmihalyi & LeFevre, 1989). This pioneering research was concerned with the characteristics of positive experiences: their origin and situational and personal characteristics facilitating their emergence. Flow theory predicts that the (positive) quality of the experience is maximized when the situation contains opportunities for acting (challenges) that match the individual's capacity (skill) to act. When the individual faces a situation like this it results in positive experiences and learning increasing the individual's cognitive complexity. Langston's research is related to Csikszentmihalyi's, via Langston's use of the scales for measuring flow (Csikszentmihalyi & Larson, 1987). In his later work, Csikszentmihalyi has also related the experiences of flow to dimensions of mood outlining a model where specific moods result from various combinations of challenge and skill.

Concepts like the process of stress, coping and flow have all been applied to working life by a multitude of researchers. As in the more general work on stress, only a minor part of the research has focused directly on positive events, although knowledge of how to create a sustainable positive learning climate and sustainable health in organisations would be of interest for occupational psychology and management in general. This would seem to be especially so when thinking about the service and knowledge sectors. Research particularly management research within occupational psychology seems to be focused on problems or negative events, creating a need for research on positive events and experiences and how they are acted upon.

Some researchers would argue that one reason why little emphasis has been given to positive experiences is simple because what is being measured is just different aspects of the same thing. However, statistical tools like structural equation modelling clearly separate different dimensions of work climate and its outcome. We propose that the determinants of stress and flow respectively differ, and that
stress and flow are separate dimensions, although frequently highly correlated, because of a combination of memory processes and methodological artefacts, both resulting in a systematic fusion of the qualities of experiences.

**Research question**

Under what circumstances do managers experience positive events or have positive experiences, and how do they act upon them (capitalise on them)? How could the managers’ capitalizing on positive events contribute to a learning climate for managers and staff with subsequent outcomes such as skill development, innovation and creativity at work?

**Method**

Considering the potential differences between managers at various levels and in various sectors, this study was restricted to managers within the public sector with between 50 and 1000 employees. The organisations were all active within the region of Skane (Scania), with about 1 million inhabitants. Examples of organisations are the Health Insurance Offices, various county organisations (medical units, county constabulary) and various municipal units.

Information gathered was through in-depth interviews, since preliminary discussions with the managers clearly indicated that they preferred this type of data collection to questionnaires, especially since some of the information that they felt may be convey to us in order to explain their work situation was confidential or sensitive in some way. This interview approach also had the advantage that we could allocate interviewers according to our previous knowledge of the type of organisation the manager was directing. Each of the authors had a background within police organisations, health insurance service or medicine. Another argument for this sort of approach is that in-depth interviews are more suitable than questionnaires for exploring a relative unknown phenomenon.

Originally, we planned to interview about 30 managers, but step-wise brief analyses of the interviews lead to the decision to end the data collection after 17 completed interviews, since it was judged that very little extra information would be gained by continuing the interviews.

Each author performed about one third of the interviews, selecting informants within their respective area of expertise. The interviews were based on a joint knowledge of the above theories, but no fixed questions were formulated. A high tempo and intense atmosphere was asked for, with a maximum length of the interviews of 2 hours (minimum time was expected to be 1 hour) exclusive of introductory talk, time for a short coffee break and farewell etc. The intention was to create the sense of an honest and straightforward communication between experts, rather than a nice and cozy chat.

The interviews were recorded although a number of participants asked that the interviews not be taped. Asking for the interviews not to be taped came mainly from medical managers because the information they wanted to speak about was confidential. Where this was the case brief notes were taken. A total of 12 interviews were recorded and subsequently transcribed, each interview yielding between 10 and 20 pages of text. The concise notes from the 5 non-recorded interviews were between three to five pages per interview.

**Results**

*Categories of information*

An analysis of the information showed that most could be sorted in a few categories. The different categories are described below.

*Results according to the found categories*

Organisational characteristics and managerial position. Most of the participants described themselves as holding middle management positions. A few were heads of their respective organisation. Most managers had more than 100 subordinates although the range of subordinates ranged from 50 to 1000 subordinates.

Demographic characteristics. 14 of the managers were men and 3 were women. The mode age was about 50 years; the range between 35 and 60 years. While most of the managers were newly appointed all had considerable experience as managers – a few years of managerial experience was rare.

Responsibilities outside of work. It was quite common for many of the managers to have or have had responsibilities outside work, such as, for example being a chairman in a union or sports organisations.

How did the management career start? Most of the managers were internally recruited, although a majority had to apply for the position.
The nature of leadership. Half of the managers had a very naïve or straightforward view of becoming a leader or manager, and perceived themselves as "natural leaders". The other half thought they had to learn by experience and mistakes in becoming good leaders. Most had academic degrees and professional training, some with more than one degree. A few managers had started their occupational career without any academic or professional training.

General view on management. The majority of the managers expressed that task and relationship orientations had to be combined. The remaining managers were equally divided in giving priority to either task or relationship orientation. Only two managers perceived their own performance as crucial for success – the majority saw the performance of staff as the important factor for success.

Negative events. Negative events were seen as natural in the present Swedish situation (downsizing etc.). Being exposed to and handling negative events was considered an integrated part of being a manager. Half of the managers experienced communicating and relating to staff as negative. To be isolated as a manager was mentioned by one manager as a negative factor.

Positive events. Very few managers could identify any positive events or how they dealt with positive events related to them. For the majority positive events – although infrequent – were seen more in terms of efforts by staff. Two managers indicated that they were not aware of anything especially positive that had occurred. However, when the positive event was attributed to other people, praise or some type of social reward was mentioned. Several managers mentioned the habit of having a short coffee meeting with the person in question and letting their positive feelings known to the other staff through middle managers, secretaries etc. Only one manager used explicit substantial rewards. Two managers had the view that staff knew when the manager was satisfied, no special action or reward was necessary. One manager was of the opinion that the results showed if staff was performing well. Another manager expressed that everybody knows when something is done well, so no special reaction is necessary. Only two managers said that they use criticism as a tool for feedback, for example when negotiating salary. One manager had learnt by experience not to show any emotion (previously he had showed that he was angry) when staff failed.

The development as a manager. Six of the managers mentioned that management is a distinct learning and development process, moving from being not so good managers to better managers. The same number of managers said they have progressed from a high level ("natural leaders") to a higher level as professional managers. A minority had chosen management as a professional career.

When it came to the interviewer's perception of the manager's attitudes ("personality"), especially his attitude to the interview it was generally agreed among the interviewers that the managers had made an effort to be honest about their work experiences, possibly with the exception of the experience of major previous failures, which were often referred to in a vague way and had to be uncovered by direct questions from the interviewers.

Discussion

The main result from this study was the distinct absence of findings about positive events among public sector managers especially when it came to how to handle or capitalize on them. This of course is no sure indication of absence of such emotions or lack of ways of dealing with it in real life. Systematic memory effects distorting the access to positive events could make it difficult or impossible for the managers to recall positive events. However, it seems clear that the managers had no conscious and well-established ways of capitalizing on positive events.

For further studies the questionnaire technique may not be the appropriate tool nor perhaps will other retrospective techniques such as the repertory grid since the same kind of systematic memory effects will apply to them as they did to interviews. Instead, self-report techniques like for example the Experience Sampling Method are advocated, hopefully minimizing the effect of distortive memory effects.

References

Conditions and Consequences of Managerial Stress. A Cross Sector, Cross Level, and Cross Cultural Comparison

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The paper deals with conditions and consequences of stress in management. Differences are analysed within a sample of 141 German managers from three different lines of business and at three different management levels. Cross-cultural differences are examined in comparison with two additional manager samples from the UK (n=224) and the US (n=120). Conditions and consequences of managerial stress were measured by the German version of the “Occupational Stress Indicator Version 2 (OSI-2)”, which proves good reliability and validity. The results of multivariate analyses of covariance, controlling for sex, age and working hours, indicate some significant differences in work pressure, job satisfaction and well-being with respect to different lines of business and levels of management. By means of stepwise regression analyses, a moderating effect of autonomy on the relationship between levels of management and outcomes can be partially supported. Furthermore, several cross-cultural differences of conditions and consequences of managerial stress were found.

Introduction

Occupational stress is a particularly relevant topic for managers. They do not only have to deal with issues such as job dissatisfaction and poor well-being, and their detrimental consequences (e.g. high levels of absenteeism). They also have to function and behave as positive role models. Moreover, in many ways, they themselves are subject to high work pressures – they work very long hours, are confronted with a large number of difficult decisions, important and critical consequences and so forth. Therefore, besides managing others, executives also have to manage their own sources of pressure and job satisfaction, well-being and job strain. The multi-faceted conditions and consequences of managerial stress will be the topic of this paper.

In contrast to the obvious importance of managerial stress, there is very little empirical data regarding stress and health in top managerial positions. Instead, one finds speculations and many assumptions about managerial stress in the literature. For example, according to recent survey results about 60% of German managers experience psychological problems to a certain degree. At first glance this seems to be very plausible and convincing because in times of rapid changes through reorganisation, altering markets and accelerating competition, the health of management seems to be particularly at risk. However, the few studies available that compare management to other jobs do not confirm extraordinary high levels of managerial stress. That is, epidemiological statistics reveal that the incidence of disease, including stress-related illness, in the working population is lowest among professional and managerial groups and much higher within the lower socio-economic groups (Sutherland & Cooper, 1990). For example, Cooper and Bramwell (1992) assessed mental health and job satisfaction of 236 managers and 377 shop-floor workers in the brewing industry. The results demonstrate significantly lower job satisfaction and higher levels of sickness absence among the shop-floor personnel.

A well established explanation for such discrepancies between high demands on the one side and satisfaction and well-being on the other, is the availability of resources and their alleviating function. A model which is most popular in this respect is the demand-control stress model: Karasek (1979) suggests that control at work exerts a buffering effect between job stressors and well-being. Assuming that executives possess higher degrees of autonomy than other (subordinate) groups one may suppose that - due to the higher degrees of autonomy - managers at high or even top levels of a company experience job satisfaction, well-being and an overall good occupational health. The influence of the level of position on managerial stress therefore represents the first objective of this paper.

Besides differences in stress and strain among different positions in organisational hierarchies, cross-cultural respectively cross-national differences of managerial stress are of increasing importance. Therefore, cross-cultural differences of managerial stress represent the second objective of this paper. Given the fact that a growing number of companies are going global and subsequently multi-cultural, and regarding the expansion of the European Community and its markets it is surprising that only a few studies have examined cross-cultural differences with respect to managerial stress. The importance of

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1 We are aware of the fact that nationality and culture is not the same; this aspect need further discussion particularly with regard to comparative studies in a global economy. Here we prefer the term culture because it underlines the content of supposed differences more appropriate.
culturally bound differences in managerial stress seems to be manifold; one should for example consider
its influence on co-operation in world-wide teams or its impact on the integration of managers and their
families at locations abroad. For example, Cooper (1984) has shown that top-level executives in ten
countries including Germany and UK differed in their job satisfaction and profiles of perceived sources of
job stress. More recently, Kirkcaldy and Cooper (1992) examined 133 German and 123 British managers
from several companies. Several marked differences were observed such as German managers displaying
significantly better mental health than their British counterparts. These and other results suggest that
managerial stress varies according to culture, history and socio-economic background (Cooper, Sloan &
Williams, 1988).

Results of cross-cultural comparisons often suffer from a restricted validity due to differences in
methods. This is one of the reasons that the ‘Collaborative International Study of Managerial Stress
(CISMS)’ was founded in 1996. CISMS is a project of an international group of researchers which
commits itself to a common set of methods and instruments to collect data in some 30 countries (e.g.
Büssing & Glaser, 1998; Spector, Cooper, Sanchez et al. (in press); Spector, Cooper, Sparks et al. (in
press)).

A third objective of this paper is concerned with differences in managerial stress due to different
lines of business. As we know from research on organisational culture, climate and health, companies -
and particularly those from diverse branches - might differ substantially with respect to these aspects. In
line with this assumption we find different organisational behaviour and managerial styles (e.g. Büssing,
1992; Cox & Thomson, 2000). Against this background we suppose that such differences might be one
reason for variations in managerial stress.

Following these objectives our research questions are as follows:
1. Are there differences in conditions and consequences of managerial stress between managers in
different lines of business?
2. Are there differences in conditions and consequences of managerial stress between different levels of
management?
3. Are there differences in conditions and consequences of managerial stress between Germany, Great
Britain and the United States?

The first two questions regarding the comparison of lines of business and level of management will
be analysed with samples of managers from three German companies. To answer the third question we
will analyse two additional samples from Great Britain and the US.

**Method**

**Subjects**

Data were collected within the ‘Collaborative International Study of Managerial Stress (CISMS)’. We
investigated three sub-samples of managers in different lines of business by means of a questionnaire. So
far the German sample (n=141) consists of 31 managers from a big German airline (sub-sample D1), 25
managers from a major bank (sub-sample D2) and 85 managers of a world-wide leading electro company
(sub-sample D3). All of the three companies act as ‘global players’ with some ten-thousand to several
hundred thousand employees each. In addition to the German sample we have data available from the UK
and US study within CISMS. The UK sample consists of 224 managers and the US sample subsumes 120
managers from different companies.

The ‘typical manager’ in these samples can be characterised as predominantly male (65.2 %), with a mean age of 45.0 years, married or living with a partner (83.2 %) and having one or more children
living in their household (54.1 %). On average the managers have been working for 15.7 years; those in
full-time positions (96.3 %) work about 50 hours per week and those in part-time positions (3.7 %) about
34 hours per week. However, there are some remarkable differences between the samples from the
different countries as well as among the German sub-samples. Among the German managers we found a
higher prevalence of male managers (D: 94.3 %, sub-samples D1-D3 ranging from 83.9 % to 98.8 %,
UK: 52.5 %, US: 54.6 %), who are older (D: 48.0 years, sub-samples D1-D3 ranging from 37.4 to 51.5
years, UK: 43.7 years, US: 43.9 years) and who are working longer weekly working hours (D: 56.2 hours,
sub-samples D1-D3 ranging from 55.5 to 59.0 hours, UK: 45.3 hours, US: 50.0 hours). We take this into
account by controlling for sex, age and working hours in our statistical analyses.

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2 We would like to thank Professors Cary Cooper and Paul Spector for their kind permission to use the UK and
US data.
Measures

The questionnaires administered included the ‘Occupational Stress Indicator Version 2’ (OSI-2; Cooper & Williams, 1996). The OSI-2 is a 90 item short form of the OSI (Cooper et al., 1988) subsuming many different measures. The ‘pressure’-scale of the OSI-2 was used to measure sources of stress at work. It consists of eight sub-scales and 40 items (see table 1): workload, relationships, home/work balance, managerial role, personal responsibility, “hassles”, recognition, and organisational climate. Items were rated with respect to the degree of pressure the managers perceived in their job on a six-point Likert scale (1=‘very definitely not a source’; 6=‘very definitely a source’).

Job satisfaction was assessed by 12 items on a six-point Likert scale (1=‘very much dissatisfaction’; 6=‘very much satisfaction’). The items were clustered into two sub-scales, both dealing with six aspects of ‘job itself’ and ‘organisation’.

Mental well-being was measured by 12 items. Physical well-being was assessed by 6 items. Both instruments use six-point Likert scales (e.g. 1=‘never’; 6=‘very frequently’). Additionally the intention to leave - which is an important potential outcome of stress and strain - was measured by one item on a six-point Likert scale (1=‘never’; 6=‘extremely often’).

In addition to the OSI-2 we measured activity latitudes as a well-established indicator of autonomy at work in Germany (e.g. Frese & Zapf, 1994). The instrument by Büssing and Glaser (1998) consists of 18 items and a five-point Likert scale (1=‘not at all’; 5=‘yes, indeed’).

Statistical analyses

Reliability and factorial structure of the OSI-2 were examined by principal component analyses (one-factor-structure) and an estimation of internal consistency according to Cronbach’s alpha.

The research questions in this study were investigated by multivariate analyses of covariance (MANCOVA) and univariate analyses of covariance (ANCOVA). As independent variables we compared - according to the respective three research questions - the German sub-samples (D1 to D3; question 1), the different levels of management (top, senior, middle; question 2) and the different countries (D, UK, US; question 3). Three separate MANCOVA were calculated with regard to each research question because of three multivariate sets of dependent variables. First, we considered indicators of job stress (eight sub-scales of pressure), followed by separate analyses on two groups of strain measures, i.e. job satisfaction (job itself, organisation) and well-being (mental well-being, physical well-being). With respect to the dependent variable ‘intention to leave’ we accordingly performed three univariate analyses of covariance (ANCOVA). Each analysis of covariance included three potential co-variates: sex, age and working hours.

A stepwise multiple regression analysis was then performed in order to consider the potential moderating impact of autonomy at work on managerial stress at different levels of management. This analysis extends the second research question. Five regression analyses were calculated for five dependent variables: the four measures of job satisfaction and well-being and the intention to leave. Within each of the five analyses sex, age, and working hours served as the co-variates. We further included the independent variables position, ‘pressure’ (OSI-2 global measure of pressure), and the potential moderating variable ‘activity latitude’ as well as the three two-way interaction terms between these independent variables.

Results and discussion

Reliability and validity of the measures

The reliability estimation (Cronbach’s alpha) of the scales in the overall sample are presented in table 1. Ten out of 12 scales of the OSI-2 show good reliability with coefficients ranging from .73 to .93. The two scales ‘pressure: managerial role’ (α=.53) and ‘pressure: hassles’ (α=.57) reach less sufficient reliability. The reliability estimations within the three different samples (D, UK, US) do not differ substantially except for one: in the German sample the reliability of the scale ‘pressure: managerial role’ is acceptable (α=.62). The global measure of the 40 items OSI-2 ‘pressure’-scale (α=.92) as well as the ‘activity latitude’-scale (α=.93, German sample) both show good reliability.

The results of principal component analyses of the OSI-2 scales for the German sample show one-factor structure for all eight sub-scales of pressure as well as a one-factor structure for the two scales of job satisfaction. The two well-being scales though come out with two respectively three factors (however, one factor with an eigenvalue close to 1.0 is very weak). These results are comparable to the factorial structure of the scales reported for the UK and US samples.

With respect to the validity of the German OSI-2, the results of inter-correlation between the pressure-scales as well as the correlation with job satisfaction and well-being show a positive pattern. All signs are as expected, i.e. positive relationships between pressure scales and negative relationships to
indicators of job satisfaction and well-being. Common variance between pressure-scales is moderate, i.e. below .50 in any case. Twenty out of 32 relationships between the eight pressure scales and the four indicators of job satisfaction and well-being were significant (p ≤ .05), and 14 of these correlations reached significance below .01. These results on convergent validity in the German sample are similar to results from the US sample. The relationships in the UK sample, however, are less positive, i.e. only 50% of the correlation coefficients between stress and strain indicators are significant. All in all, these first results indicate a good construct validity of the German version of the OSI-2 and indicate a successful translation and adaptation of the OSI-2 scales into German language.

**Differences in conditions and consequences of managerial stress between lines of business**

The results of multivariate analyses of covariance (MANCOVA) between the three German sub-samples (D1 to D3) controlled for co-variates sex, age and working time show several significant differences between the three companies. Only in two cases the effects of co-variates were significant, therefore, the respective p-values of the multivariate comparison between the companies are adjusted. Bank executives (sub-sample D2) perceive higher job stress with respect to the following aspects of ‘pressure’: relationships, recognition and organisation climate. Furthermore, job satisfaction of the bank managers

<table>
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<th></th>
<th>D n=141</th>
<th>UK n=224</th>
<th>US n=120</th>
<th>p-value Mancov</th>
<th>p-value D : UK</th>
<th>p-value D : US</th>
<th>p-value UK: US</th>
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<td>Pressure: Workload</td>
<td>3.52</td>
<td>3.40</td>
<td>3.33</td>
<td>.31</td>
<td>.76</td>
<td>.17</td>
<td>.22</td>
<td>.92</td>
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<td>3.61</td>
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<td>.48</td>
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<td>2.37</td>
<td>2.60</td>
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<td>≈ 0</td>
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<td>.073</td>
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<td>2.69</td>
<td>2.89</td>
<td>3.11</td>
<td>≈ 0</td>
<td>.010</td>
<td>≈ 0</td>
<td>.026</td>
<td>.11</td>
<td>.38</td>
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<td>.53</td>
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<td>2.63</td>
<td>3.25</td>
<td>3.24</td>
<td>≈ 0</td>
<td>.002</td>
<td>≈ 0</td>
<td>.32</td>
<td>.64</td>
<td>.52</td>
<td>≈ 0</td>
<td>.79</td>
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<td>Pressure: Hassles</td>
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<td>3.15</td>
<td>3.04</td>
<td>.35</td>
<td>.16</td>
<td>.60</td>
<td>.34</td>
<td>.12</td>
<td>.86</td>
<td>.52</td>
<td>.57</td>
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<tr>
<td>Pressure: Recognition</td>
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<td>3.02</td>
<td>3.10</td>
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<tr>
<td>Job satisfaction: Job itself</td>
<td>4.53</td>
<td>3.99</td>
<td>4.46</td>
<td>≈ 0</td>
<td>≈ 0</td>
<td>.91</td>
<td>≈ 0</td>
<td>.17</td>
<td>.32</td>
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<td>3.65</td>
<td>3.00</td>
<td>3.80</td>
<td>≈ 0</td>
<td>≈ 0</td>
<td>.053</td>
<td>≈ 0</td>
<td>.086</td>
<td>.21</td>
<td>.38</td>
<td>.86</td>
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<tr>
<td><strong>Mancoa on well-being</strong></td>
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<tr>
<td>Mental Wellbeing</td>
<td>4.45</td>
<td>3.70</td>
<td>4.32</td>
<td>≈ 0</td>
<td>≈ 0</td>
<td>.19</td>
<td>≈ 0</td>
<td>.017</td>
<td>.061</td>
<td>.22</td>
<td>.84</td>
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<tr>
<td>Physical Wellbeing</td>
<td>4.78</td>
<td>3.51</td>
<td>4.63</td>
<td>≈ 0</td>
<td>≈ 0</td>
<td>.003</td>
<td>≈ 0</td>
<td>≈ 0</td>
<td>.56</td>
<td>.016</td>
<td>.86</td>
</tr>
<tr>
<td>Ancova on intention to leave (item)</td>
<td>1.76</td>
<td>2.76</td>
<td>2.59</td>
<td>≈ 0</td>
<td>≈ 0</td>
<td>.001</td>
<td>.44</td>
<td>.089</td>
<td>.003</td>
<td>.18</td>
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</table>

Range of scales and item: [1,6].
Regarding the organisation is significantly lower than satisfaction of their colleagues working at an airline (sub-sample D1) and at an electro company. However there were no significant differences with respect to the two indicators of well-being as well as with regard to the intention to leave. Interpreting these results, one must keep in mind that the bank executives did experience a far reaching merger only one year before the study was conducted. Two big banks with very different history, economic standing, and diverse service and organisational culture were integrated against the background of serious struggles for the process ownership at the executive as well as at the board level. We know from interviews, that some young and successful managers were disappointed and left the new company during the first months. Those who stayed, which is the vast majority of the top management, most probably were confronted with increased “pressure” during this period.

**Differences in conditions and consequences of managerial stress between levels of management**

Three levels of management have been distinguished in the German sample in order to examine the second research question: top management (n=40), senior (n=48) and middle management (n=40). Participants belonging to the category of junior level (n=3) or other levels of management (n=1) and missing values (n=9) were not included in the analysis. In three cases of significant effects of the co-variates sex, age and working time, the p-values of the respective main effects were adjusted. The results of the MANCOVA’s show the following pattern: Pressure by workload is the only measure varying significantly between the levels of management. Managers at the middle level perceive a significantly higher workload than their superior colleagues at the top level. They also tend to have a higher work load than senior executives, although the pair-wise comparison did not reach significance (p-value=0.08).

Furthermore, mental well-being of top and senior managers is significantly better compared to executives at the middle level. However, with regard to job satisfaction as well as physical well-being and intention to leave, results do not reveal significant differences between the three levels of management.

These results seem to be reasonable considering evidence from others studies. Top and senior managers who can be conceived as a more or less homogenous group of superior executives, perceive lower work load and better mental well-being than managers at the middle level. This pattern fits well with results from task analyses in management. For example, Ganter and Walgenbach (1995) analysed time budgets for activities in the daily work of managers. Similar to the early study of Mintzberg (1973), they found up to 50 fragmentised single episodes during the day by top managers. For managers at the middle level they counted even more activities, in single cases more than 200 short episodes during a day.

As mentioned above, we extended the second research question with ‘autonomy’ as a potential moderating variable. In our study, autonomy was operationalised by activity latitudes which proved to be a reliable, valid and important resource in several different studies so far (e.g. Büssing & Glaser, 1998, 1999). Within the five stepwise hierarchical regression analyses, we considered the criteria job satisfaction (two scales), well-being (two scales) and intention to leave. After controlling for sex, age and working hours, we found several significant main effects for the independent variables: position, pressure at work and the potential moderator activity latitude. As well as main effects, three significant contributions of two-way interaction terms were found. Because of necessary shortage of this extended abstract, only the significant interaction terms will be reported. As suggested in the literature, results revealed significant interaction between activity latitude and pressure at work with respect to job satisfaction and mental well-being, and an additional interaction between position and activity latitude with regard to the intention to leave. That is, results of our study to some extent underline the moderating function of latitudes at work for the relationship between job pressure and strain. Moreover, results suggest a moderating function of latitudes within the relationship of ‘position’ and ‘intention to leave’. From this result it seems that it is not only the position in hierarchy but also the perceived latitudes associated with a specific job, which matters.

**Differences in conditions and consequences of managerial stress between countries**

Compared to the results on levels of management and lines of business, the results of MANCOVA with respect to the country factor show various significant findings in conditions of managerial stress as well as in their consequences (see table 1). Firstly, many of the co-variate effects of sex, age and working hours were significant. This is not surprising considering the differences in socio-demographic characteristics between the three countries in our samples. Therefore, p-values of the main effects were adjusted in case of significant co-variation. Secondly, with only two exceptions (‘pressure: workload’, ‘pressure: hassles’), all sources of managerial stress differed significantly between the managers of the three countries. German managers reported higher ‘pressure’ from relationships, home/work balance and from recognition than their British and American colleagues. They reported significantly lower ‘pressure’ from managerial role and from personal responsibility than the UK and the US sample. British managers...
in contrast, reported greater ‘pressure’ from the organisational climate than their German and American colleagues.

The analyses of potential consequences of managerial stress (see table 1) show substantial cross-cultural differences for all indicators. British managers report significantly lower job satisfaction concerning the job itself, as well as the organisation, and substantially less mental and physical well-being than German and American managers. The physical well-being of German managers appeared significantly better than that of American managers. Finally, there were significant differences with respect to the intention to leave. German managers were less likely think about leaving their job, while American and British managers were significantly more likely to do so.

Interpretations of these cross-cultural results are quite sophisticated and difficult because there is a substantial lack of research on cross-cultural differences in management tasks, job conditions, stress and strain. We think that by collecting and analysing data on managerial stress within the CISMS project this shortcoming can be reduced in the near future.

References


The Study of Organisational and Safety Culture Using the Competing Values Model

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Recently, the importance of organisational culture as a determinant of safety culture has been suggested (Pidgeon, & Turner, 1997; Pidgeon, 1991) but the two concepts remain to be articulated (Höpfl, 1994) and their relationship to be empirically tested. The aim of this study was to analyse the relation between organisational and safety culture using compatible definitions and a valid instrument. The competing values model (Quinn, 1988) was used to operationalise the contents of organisational and safety cultures. As hypothesised, our results (obtained in four Portuguese industries using qualitative and quantitative methods) show a strong congruence between organisational and safety culture.

Introduction

Accidents at work are a serious problem in Portugal, our industry presenting one of the highest accident rates in Europe.

In the last 20 years, some authors have emphasised the importance of a socio-technical approach in understanding work accidents (Turner, 1978; Pidgeon, 1988,1991; Pidgeon & O´Learly, 2000). According to this approach, the interaction between the technology and the human and organisational arrangements must be taken into account when the origins of accidents are analysed. Specifically, this approach stresses the role of organizational cultural beliefs and norms on organisational safety (Pidgeon & O´ Learly, 2000; Vaughan, 1996). In this context, it has been suggested that organisational culture determine the importance of safety and the procedures by which safety is maintained in a given organisation (Pidgeon, 1991; ACSNI, 1993; Pidgeon & O´Learly, 2000). This aspect of the organisational culture is usually referred to as safety culture.

In the last decade, many studies have focused on safety culture and climate (Guldenmund, 2000) but until now the relationship between organisational and safety culture remains to be articulated (Höpfl, 1994) and empirically tested. One of the reasons for this may be the lack of (1) compatible definitions of the concepts and (2) theoretically consistent and psychometrically valid instruments to measure of those variables. So one of the main goals of the present study was to fill these gaps. Therefore, the theoretical delimitation of the concepts and their corresponding measurement was an important first step. Following the definitions of many authors (e.g. Denison, 1996; Guldenmund, 2000; Schein, 1992; van Muijen, 1998) of organisational culture, we understand the set of beliefs, values and norms shared by the organisational members, that are derived from shared basic assumptions and established through the social interaction processes. It is assumed that those organisational social cognitions, associated with an emotional investment, will (1) determine the perceptions and interpretations of the organisational environment, as well as the attitudes and behaviours considered to be adequate, (2) influence the organisational memory and organisational learning.

To define safety culture we started from the above culture definition, following the procedure of Turner (1978) and Guldenmund (2000). So, for safety culture we understand the set of beliefs, values and norms shared by the organisational members, that constitutes the shared basic assumptions about safety. These beliefs, values and norms are rooted in the organisational culture and are reproduced through social interaction. They will determine the importance given to safety, organisational safety practices, personal commitment to safety and accident attributions.

The organisational and safety culture manifestations can be analysed using the three levels proposed by Schein (1992). It is assumed that the organisational and safety climates are a manifestation of organisational and safety cultures, expressing specifically the intermediate level in Schein’s Model (Denison, 1996; Schein, 1992; van Muijen, 1998; Glendon & Stanton, 2000; Guldenmund, 2000). Organisational climate is understood as the shared perceptions about the organisational policies, practices and procedures, either formal or informal (Reichers & Schneider, 1990; Van Muijen, 1998).

In our approach, the concepts of both safety and organisational culture include a structural part (values, norms and beliefs) and a content part. This division was inspired by the proposal of Sackman (1991). According to that author, the structural part corresponds to the set of commonly held cognitions that are present at any point in time and that are habitually used and influence perceptions, thinking, feelings and actions. On the other hand, the content part may vary depending on the specific characteristics of the organisation (for instance, their development and relationship with the
environment). One approach to the study of the culture content is the competing values model (Quinn, 1988). This model postulates that organisational culture can be characterised using two dimensions; the first dimension emphasises the internal versus external focus and the second emphasises flexibility versus control, and the combination of these two dimensions results in four culture orientations (support, innovation, rules and objectives).

In this study, we tested the congruence between organisational and safety culture, and we hypothesised that (1) stronger organisational cultures are related to stronger safety culture; (2) the salient content of the organisational culture (for instance, an innovative organisation) will correspond to the prominent one in terms of safety culture (an innovative safety organisation).

**Method**

To conduct our study we used qualitative (document analysis and unstructured interviews) and a quantitative instrument (OSCI – Organisational and Safety Climate Inventory).

The document analysis and the interviews focused on the organisational and safety history, characterisation of the organisation and safety in the previous 3 years and the accidents history and procedure for accident analyses (in the last 10 years). The organisational documents studied were, for example, organisational formal statements, reports, posters, and bulletins. For the data organisation, a flexible category system was developed that allowed for data analyses very close to the sources. At the end, the data analysis resulted in an organisational history and characterisation that was validated afterwards by each organisation.

The questionnaire was developed after a literature review in the field (for instance, Cox & Cox, 1991; Ostrom et al., 1993; Williamson et al., 1997; Lee, 1998) and allows us to measure the organisational and safety climate. OSCI has 169 items and is divided in two main parts. These are an evaluative part which assesses perceptions about organisational and safety norms and values (e.g. innovation, rules), and a descriptive part that characterises perceptions about organisational safety practices (e.g. safety training) as well as personal involvement with safety (e.g. internalisation of safety). As we mentioned before, to operationalize the content of the evaluative part we used the competing values model. The advantage of using this model relies on the possibility to analyse the strength of climate, and it allows us to build an organisational and safety climate profile.

To ensure that the respondents would give answers about the whole organisation and not about their own work-group we explicitly asked the respondents to fill in the questionnaire focusing on the organisation as a whole.

The reliability of the questionnaire was calculated using Cronbach’s alpha coefficient. The result of this analysis showed that the instrument has a good internal consistency.

Our sample included four Portuguese organisations from the same industrial sector; 273 employees answered the questionnaire, representing 40% of each organisation. The participants had similar demographic and organisational characteristics such as, for instance, age, educational level and length in the organisation. These were essentially males with long organisational experience and from all the departments and hierarchical levels. Twenty workers were interviewed. They were important insiders with a long experience in and great knowledge about the organisations. To assure that all the participants in the study had some knowledge about the organisational culture, the quantitative data used in this study included only to 222 employees working in those organisations for, at least, two years.

**Results**

The results that we will present are our first results because the study is still running in three more organisations.

After an analysis of the organisational and safety culture profiles, considering the results from all instruments, we have found some correspondence between the organisational and the safety culture. The quantitative results show (1) that stronger safety cultures were found in organisations with stronger organisational cultures ($t (4) = 98; p< .03$), and this was also true considering the culture at a hierarchical level (sub-culture); (2) on the other hand, the same ranking of values in organisational culture was reproduced in the results for safety culture. These results confirm our initial hypothesis. The qualitative data provided some more detailed and richer insights about those relationships.

In the future we plan to test these hypotheses again with a larger sample and to test another hypothesis related to the frequency of accidents, the remembering of accidents and organisational learning concerning accidents.
References


Cultural Integration After a Merger

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In the present study a merger of two organisations within the Social Insurance Service in Sweden was studied. The purpose was to explore and compare the cultures in the two original organisations and the new merged organisation focused on the employees’ experiences. Data were gathered before the merger and were compared to data collected in the present study one year and four months after the merger. A semantic differential based on repertory grid interviews was used. The results showed that instead of integrating the positive aspects of the two original organisations, the new organisation might be seen as a blend of the negative aspects.

Introduction

The organisational and individual outcomes of a merger are dependent on the cultural dynamics in the integration process (Cartwright & Cooper, 1996). Horizontal mergers involving combinations of two similar organisations require usually total integration of their human resources. In this type of merger the outcome is especially dependent on human synergy (Cartwright & Cooper, 1993, 1996). Nahavandi and Malekzadeh (1988) used the term acculturation, adapted from cross-cultural psychology, to explain different cultural dynamics and outcomes. Acculturation is generally defined as “changes induced in (two cultural) systems as a result of the diffusion of cultural elements in both directions” (Berry, 1980, p. 217). A balanced two-way flow where the cultures blend together smoothly is one way for effective integration to be reached (Cartwright & Cooper, 2000). A merger is seldom characterised by the joining of equal partners (see Humpal, 1971). Members of one culture commonly try to dominate members of the other (Berry, 1980), especially in horizontal mergers where both organisations have experience of the same business. A successful integration relies on the ability to create a coherent and unitary new culture, which combine the best of each culture. However, such integration requires balance between the two cultural groups, which rarely seems to occur in practice (Cartwright & Cooper, 1993, 1996). In a study of a merger of two mutual saving banks relatively equal in size Bouono, Bowditch and Lewis (1985), for example found that soon after the merger the two groups of employees perceived their respectively merger partner as an “invading enemy” rather than as a co-equal partner (p. 492).

In the present study the cultural integration after a merger between two head offices within the Social Insurance Service was studied. The purpose was to explore and compare the cultures of the two original organisations with the culture of the new merged organisation with focus on the employees’ experiences.

The concept of organisational culture has no broadly agreed meaning (Alvesson, 1993). Culture could be viewed broadly “as a shared and learned world of experiences, meanings, values, and understandings…” (p. 2). Shared basic assumptions and meanings are components in most definitions (Rentsch, 1990; Schein, 1992). The study of meaning is accordingly essential in culture research. The interpretation of environments in terms of their psychological meaning is thought to be a result of cognitive processes (James & James, 1989; James & Sells, 1981). These processes are value-based and the cognitive aspect is closely related to emotions. Within an organisation, meaning arise from interaction among the members and their interaction with the environment (Schneider & Reichers, 1983). From this point of view the organisational culture could be seen as shared sense of reality (Morgan, 1986).

The espoused culture of an organisation may differ from the dominant ‘culture in use’ and from subcultures (Cartwright & Cooper, 2000). To fully understand cultures it is therefore necessary to examine the organisation at the employee level. The repertory grid method developed by Kelly (1955) combined with a semantic differential technique was used in the present study to elicit the meaning employees attached to the organisations involved in the merger.

Pre-merger analysis

Pre-merger data on employees interpretations of the organisations, was collected with a two stages design (Dackert, Brenner & Johansson, submitted). In the first stage the repertory grid method was used to elicit employees mental representations (constructs) of the two original organisations and the expected new merged organisation. In the second stage, a semantic differential based on the elicited constructs was sent.
to all the employees at the two head offices two months before the merger. Four components: Climate, Activity/Efficiency, Control, and Workload/Demand, were yielded with Principal Component Analysis.

The results showed (Dackert, Brenner & Johansson, 2000) that the two employee-groups agreed in their interpretations of the Old(b)-organisation as having a more positive climate than the Old(a)-organisation. Old(a)-employees interpreted the Old(b)-organisation to be less active/efficient than their own organisation. However, Old(b)-employees interpreted their own organisation to be active/efficient at nearly the same level as the Old(a)-organisation. In the control dimension the two employee-groups had opposite interpretation of the two organisations, which they also had in the workload/demand dimension. Both groups interpreted their own organisation having lower control and higher workload/demand.

Background factors that could explain why the Old(b)-organisation was perceived having a more positive climate and why the Old(a)-organisation was perceived as more active and efficient was discussed. The Old(a)-organisation (1139 employees) was bigger in size than the Old(b)-organisation (469 employees). The Old(a)-organisation had been operating in a central area of the region including a major city, while the Old(b)-organisation had been operating in a more rural environment. The Old(a)-organisation had experience of carrying through an earlier merger, seven years ago, and had been criticised for totally assimilation of the other organisation. Taken together with the fact that the director of the Old(a)-organisation was appointed to be the director of the Merged-organisation, these factors could explain the expectations of the Merged-organisation to be more like the Old(a)-organisation. The Old(a)-organisation was expected to be dominant in the merging process of both the employee-groups.

Post-merger investigation

One year and four months after the merger, when the merged organisation could be expected to have regained some form of stability, the employees at the head office were asked to describe their organisation on the four components generated in the pre-merger study. One aim was to compare the culture of the merged organisation with the cultures of the two original organisations to see if and how they were integrated. A second aim was to compare the employees’ expectations of the merged organisation with their interpretation of the new merged organisation. Finally, a third aim was to compare how former old(a)-employees and former old(b)-employees interpreted the culture of the new merged organisation.

Method

Participants

The study participants were employees at the new Merged head office, which was relocated to the former head office of the Old(b)-organisation. The two original head offices were totally integrated after the merger. The number of employees at the new head office was 90. The 53 female and 37 male employees were between 28 and 61 years old (M = 49) and their length of employment varied from 1 to 38 years (M = 22). 47 per cent came from the Old(b)-head office, 43 per cent came from the Old(a)-head office, and 10 per cent were new recruited internally, from local offices, or externally. The main task of the head office was to lead, support and develop the work at the local offices. The response rate of the semantic differential, on which the employees were asked to judge the new merged organisation, was 82.2 per cent.

Instrument

To measure the four components Climate, Activity/Efficiency, Control, and Workload/Demand, the variables generated in the pre-merger study was used. For Climate 17 variables were used: cold - kind, hard - soft, individualism - community, egoistic - solidarity, personnel unkind - kind, aggressive - calm, directive - listening, authoritarian - participative, serious - playful, controlling - permitting climate, top down - co-determination, big size – familiar, territory thinking – collaboration, formal – informal, unavailable – available, bureaucratic – service, and quantitative – qualitative (Cronbach’s α = .93). For Activity/Efficiency 10 variables were used: anonymous – mass medial, passive – active, low – high status, introvert – extrovert work style, bad – good marketing, inefficiency – efficiency, irrational – rational, skill waist – skill utilising, pay out – rehabilitation, and administrative – innovative (Cronbach’s α = .83). For Control three variables were used: local offices self-determination – central office directive, self-managed – controlled work situation, and delegating – detail control (Cronbach’s α = .62). For Workload/Demand three variables were used: low – high local office workload, low – high local office demand, and low – high workload (Cronbach’s α = .63). The pools of the items were presented randomly. All items were scored on a seven-point scale.
Data analysis

The means for the four components in the Old(a)-organisation and the Old(b)-organisation from the pre-merger study were compared with the means in the Merged-organisation post-merger, as assessed by the employees actually working in the organisations. Mean differences were tested with an independent sample t-test. Means for the employee group that had answered both the pre-merger and the post-merger semantic differential were also compared and tested with a paired sample t-test.

The means for the four components in the expected Merged organisation were compared with the means for the actually Merged organisation in the employee group that had answered the pre-merger and the post-merger semantic differential. Mean differences were tested with a paired sample t-test.

Finally, the means for the four components and the 44 variables in the Merged-organisation for former Old(a)-employees and former Old(b)-employees were compared and tested with ANOVA.

Results

The comparison of the means for the four components in the new Merged-organisation with the Old(a)-organisation respectively the Old(b)-organisation is shown in Table 1. There was a significant mean difference in Climate between the Merged-organisation and Old(b)-organisation, indicating that the Merged-organisation was perceived more like the Old(a)-organisation as having a more negative Climate than the Old(b)-organisation. There was a significant mean difference in Activity/Efficiency between the Merged-organisation and Old(a)-organisation, indicating that the Merged-organisation was perceived more like the Old(b)-organisation and less active/efficient than the Old(a)-organisation. In Control and Workload/Demand the Merged-organisation had higher values than the to original organisations with a significant difference in Control in comparison with the Old(b)-organisation.

Table 1 Means and standard deviations for the four components in the three organisations; Old(a), Old(b) and Merged, for employees in resp. organisation pre and post merger. Mean differences, tested with independent sample t-test between the Merged-organisation and the two original organisations.

<table>
<thead>
<tr>
<th></th>
<th>Merged-organisation</th>
<th>Old(a)-organisation</th>
<th>Old(b)-organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>N</td>
</tr>
<tr>
<td>Climate (negative→positive)</td>
<td>3.84</td>
<td>0.90</td>
<td>74</td>
</tr>
<tr>
<td>Activity/Efficiency (low→high)</td>
<td>4.29</td>
<td>0.76</td>
<td>74</td>
</tr>
<tr>
<td>Control (low→high)</td>
<td>3.80</td>
<td>1.08</td>
<td>74</td>
</tr>
<tr>
<td>Workload/Demand (low→high)</td>
<td>5.61</td>
<td>0.74</td>
<td>74</td>
</tr>
</tbody>
</table>

***p < .001  *p < .05

When the means for the three organisations were compared in the employee group that had answered both the pre- and post-merger semantic differential the result was congruent with the result above and even more accentuated, see Table 2.

Table 2 Means and standard deviations for the four components in the three organisations; Old(a), Old(b) and Merged. Mean differences, tested with paired sample t-tests, between the Merged-organisation and Old(a)- and Old(b)-organisation, for employees that have answered both the pre- and the post-merger questionnaire, Old(a)-employees (N = 18) and Old(b)-employees (N = 19).

<table>
<thead>
<tr>
<th></th>
<th>Merged-organisation</th>
<th>Old(a)-organisation</th>
<th>Old(b)-organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>N</td>
</tr>
<tr>
<td>Climate (negative→positive)</td>
<td>4.01</td>
<td>0.90</td>
<td>33</td>
</tr>
<tr>
<td>Activity/Efficiency (low→high)</td>
<td>4.38</td>
<td>0.76</td>
<td>43</td>
</tr>
<tr>
<td>Control (low→high)</td>
<td>3.35</td>
<td>1.12</td>
<td>45</td>
</tr>
<tr>
<td>Workload/Demand (low→high)</td>
<td>5.80</td>
<td>0.60</td>
<td>57</td>
</tr>
</tbody>
</table>

***p < .001  **p < .01  *p < .05

There were no significant mean differences between the expected and the “real” Merged-organisation for Old(a)-employees. For Old(b)-employees there were significant differences in
Activity/Efficiency, $M_{diff} = -0.70$, $p < .001$, i.e. the “real” Merged-organisation was perceived as less active/efficient than expected. In Control there also was a significant difference, $M_{diff} = 0.96$, $p < .05$, i.e. the “real” Merged-organisation was perceived as more controlling than expected of the Old(b)-employees.

Comparison of how the former Old(a)-employees and the former Old(b)-employees experienced the new Merged-organisation showed a significant mean difference in Climate, see Table 3. Old(b)-employees perceived the climate as more negative than Old(a)-employees. Climate variables that were perceived significantly more negative by Old(b)-employees were authoritarian-participative, controlling – permitting climate, unavailable – available, hard – soft, and egoistic – solidarity.

Table 3 Means, standard deviations and mean differences for the four components and variables with significant mean differences (ANOVA) in the Merged-organisation, for former Old(a)-employees ($N = 33$) and for former Old(b)-employees ($N = 32$)

<table>
<thead>
<tr>
<th>Component</th>
<th>Old(a)-employees M</th>
<th>SD</th>
<th>Old(b)-employees M</th>
<th>SD</th>
<th>Mdiff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Climate (negative→positive)</td>
<td>4.04</td>
<td>0.76</td>
<td>3.61</td>
<td>0.97</td>
<td>0.43*</td>
</tr>
<tr>
<td>authoritarian-participative</td>
<td>4.45</td>
<td>1.30</td>
<td>3.41</td>
<td>1.54</td>
<td>1.04**</td>
</tr>
<tr>
<td>controlling-permitting climate</td>
<td>4.33</td>
<td>1.19</td>
<td>3.56</td>
<td>1.39</td>
<td>0.77*</td>
</tr>
<tr>
<td>unavailable-available</td>
<td>4.91</td>
<td>1.21</td>
<td>4.16</td>
<td>1.39</td>
<td>0.77*</td>
</tr>
<tr>
<td>hard-soft</td>
<td>3.85</td>
<td>1.20</td>
<td>3.19</td>
<td>1.26</td>
<td>0.65*</td>
</tr>
<tr>
<td>egoistic-solidarity</td>
<td>4.30</td>
<td>1.19</td>
<td>3.69</td>
<td>1.26</td>
<td>0.61*</td>
</tr>
<tr>
<td>Activity/Efficiency (low→high)</td>
<td>4.32</td>
<td>0.71</td>
<td>4.35</td>
<td>0.75</td>
<td>-0.03</td>
</tr>
<tr>
<td>bad-good marketing</td>
<td>3.30</td>
<td>1.01</td>
<td>4.09</td>
<td>1.25</td>
<td>-0.79**</td>
</tr>
<tr>
<td>pay out-rehabilitation</td>
<td>4.47</td>
<td>1.48</td>
<td>3.81</td>
<td>1.00</td>
<td>0.66*</td>
</tr>
<tr>
<td>Control (low→high)</td>
<td>3.67</td>
<td>1.06</td>
<td>4.02</td>
<td>1.18</td>
<td>-0.35</td>
</tr>
<tr>
<td>delegating-detail control</td>
<td>3.321</td>
<td>1.45</td>
<td>4.09</td>
<td>1.44</td>
<td>-0.88*</td>
</tr>
<tr>
<td>Workload/Demand (low→high)</td>
<td>5.72</td>
<td>0.60</td>
<td>5.67</td>
<td>0.80</td>
<td>0.05</td>
</tr>
</tbody>
</table>

**$p < .01$  *$p < .05$**

**Discussion**

The culture of the Merged-organisation is partly a combination of the cultures in the two original organisations. However, the results showed that it is the negative aspects that have been integrated. In the climate dimension the Merged-organisation is interpreted as having a more negative climate than the Old(b)-organisation and about the same as Old(a)-organisation. In the activity/efficiency dimension on the other hand the Merged-organisation is interpreted as less active/efficient than the Old(a)-organisation and about at the same level as Old(b)-organisation. The perceived higher workload of the Merged-organisation could be related to the fact that the numbers of employees at the merged head office was reduced in relation to the two original head offices. The new head office was expected to do the same tasks that two head offices, with more resources, did before the merger.

The Old(b)-employees experienced the Merged-organisation to be more controlling than their own organisation and their expected Merged-organisation. These results are congruent with how the former Old(b)-employees interpreted the Merged-organisation, in comparison to the former Old(a)-employees. In the climate dimension the largest difference was in the former Old(b)-employees interpretations of the Merged organisation as more authoritarian and having a more controlling climate. The same tendency is found in the control dimension where the former Old(b)-employees interpreted the Merged-organisation to be more detail controlling than the former Old(a)-employees did.

In the pre-merger study the Old(a)-employees experienced the climate in the Old(b)-organisation as more positive than in their own organisation. This is a fact that could have facilitated a greater influence from the Old(b)-climate in the integration. Another circumstance that could have worked in the direction of balance in influence was that the number of employees recruited from the two original head offices was about the same. The factor that seems to have had the strongest influence on the integration, however, is that the director from the Old(a)-organisation got the position as director of the Merged-organisation. The results from the pre-merger study showed that there were differences between the cultures of the two original organisations that are close related to leadership philosophy. Datta (1991) also found that differences in top management styles in pre-merger organisations have a strong impact on the integration and performance after an acquisition.

In conclusion, the perceived attractiveness of the climate in the Old(b)-organisation from both the employee groups was not sufficient to have an impact on the new Merged-organisation, since the top management style was not congruent with that climate. In addition, the activity/efficiency is likely to be dependent on a positive integration of the climates in the original organisations. If the integration results
in a more negative climate for the new organisation as a whole, the activity/efficiency becomes lower from the employees’ point of view.

References
Problems, Pitfall and Issues in the Researching of Work Stress: Exploring Alternative Pathways

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It is quite apparent from reviews of work stress and coping research that many researchers, while accepting that stress is transactional in nature, still prefer to research it in interactional terms. They do this mainly to determine what moderates the stressor-strain relationship. This paper enters this debate by exploring the theoretical and measurement consequences of more explicitly building a transactional perspective into work stress research. It does this by considering a number of issues. These include, for example, whether contemporary measurement practices actually provide a basis for capturing the nature of the stress process; whether our measures are actually measuring what we think they are; where are current methods taking us and what needs to be done to better serve those whose working lives we research.

Introduction

It is quite apparent from reviews of work stress and coping research (Dewe, Cox & Ferguson, 1993; Dewe, 2000) that many researchers appear to accept that at the conceptual level stress is best defined as relational in nature reflecting a transaction between the individual and the environment (Lazarus, 1990). However, at the empirical level, they prefer to research work stress in interactional terms seeking mainly to determine what moderates the stressor-strain relationship. This raises the question of whether it is now time to enter a period of ‘quiet reconstruction’ and to more constructively explore ‘where current methodologies are taking us’ and ‘what alternative methodologies can provide’ (Van Maanen, 1979). This paper enters this debate by exploring a number of issues. These include: (a) the need to consider how stress is defined because such definitions influence both how we research work stress and how we explain our results (Cooper, Dewe & O’Driscoll, 2001), (b) whether contemporary measurement practices actually allow us to capture the nature of the stress process, (c) whether our measures are actually measuring what we think they are, and; (d) what needs to be done in order to better serve those whose working lives we research.

Stress Definitions

The issue here is not to enter into what almost appears to be a tradition of pointing out the difficulties involved in defining work stress, nor is it necessary to comment on definitions of stress that view stress as either a stimulus, a response or an interaction between the two. In respect of the latter the more traditional approaches to defining stress have in terms of their historical context contributed to our understanding of the different components of the stress process: but they do not in themselves substantiate a theory of stress (Lazarus, 1990). So the two issues in terms of stress definitions that need to be addressed are: (a) whether the transactional approach to defining stress offers a framework for better understanding the stress process and should now be reflected in how work stress is investigated, and (b) whether there is merit in regularly reviewing why we believe in current representations of stress so that our definitions are seen to reflect the stress experience of those we research rather than just the ‘stress rhetoric’ (Newton, 1995).

Turning briefly to the transactional nature of stress (Lazarus, 1991) it is clear that through the processes of primary appraisal (what does this encounter mean for me?) and secondary appraisal (what can I do about it?) we have a pathway that links the individual to the environment. This also means that by accepting that stress resides neither in the individual nor in the environment but in the transaction between the two, we are confronted with the need to re-examine how we measure components to that transaction since each is part of a transaction and must be seen, understood, and measured within the context of a process. Defining stress in terms of a process – a transaction – points to concepts like meaning, coping and adjustment and consequently on the adaptive process itself. Stress defined in this way has ‘a number of profound implications ’ (Lazarus, 1991: 6) for how it is researched, and despite the fact that the application of the transactional approach to a work setting is not without its difficulties (Brief & George, 1991) it is this definition which may provide the ‘value added’ so desperately sought after by work stress researchers and a methodological pathway that has, for work stress researchers been so elusive.
**Measurement**

The issue of measurement is still intensely debated by work stress researchers. It is clear that if our aim is to capture the reality of a stressful encounter then it is important to reconsider traditional approaches to measurement and to explore what alternative methods can provide. The issue is not one of replacing one methodology with another or of assuming that one approach to measurement has more scientific merit than another but simply to re-evaluate how we develop, validate and analyse current data and whether those approaches capture the richness and complexity of the stress process. At one level, this may require researchers to consider ‘innovative methodological contributions and directions’ (Bartunek, Bobko & Venkatraman, 1993: 1364) including reviewing what we mean by data (going beyond the limited view of data that simply refers to discrete numbers), the meaning of measurement (adopting a more liberal view of what we mean by measurement), the role of time in research (the role of longitudinal analysis and the need to explore the evolutionary nature of data over time) and appropriate boundary conditions (what can we learn by extending the boundaries of research to consider the application of approaches that are not previously considered part of organizational research) (see Bartunek, et al.; 1366-1367).

At another level, it requires work stress researchers to reconsider what adopting a transactional perspective means in terms of traditional approaches to measurement. If, for example, the transactional approach requires researchers to capture the meaning individuals give to events (primary appraisal) then does this mean that by continuing to measure work stressors using interval scales, that ask individuals to simply indicate how frequently an event occurs, simply misses out one of the most fundamental and significant steps in the stress process (Dewe, 1991). It must also raise some interesting discussion about the role of subjective versus objective measurement (Frese & Zapf, 1999; Perrew & Zellars, 1999; Schaubroeck, 1999). Again this is only one example used to illustrate how, if a transactional perspective is adopted, traditional views of measurement will need to be revisited. Reviews of the literature (Coyne, 1997) when it comes to measurement are at times particularly uncompromising but if our search for a middle ground is seen as a first step then two strategies are available. The first is to reconsider what it is we measures are measuring and to more closely relate measurement to theory (Lazarus, 1990). This involves continuing to refine and develop current measurement strategies (Cooper et al, 2001; Dewe, 2000) This requires something more than just satisfying ourselves that the measures we use are reliable; in fact it may require that our reliance on reliability coefficients may need to be considered in terms of whether reliability has been achieved at the expense of relevance particularly when asking the question ‘are our measures actually measuring what we think they are.’

**Refinement of measures**

This approach to refining measures requires researchers to ask a number of questions when considering for example, how work stressors and coping strategies should be measured. These would include (see for example Aldwin, 2000; Cooper et al, 2001; Coyne & Racioppo, 2000; Dewe 2000; Dewe, Cox & Ferguson, 1993; Lazarus, 2000; Stone & Kennedy-Moore, 1991; Snyder, 1999) depending at times on the nature of the research questions-are scale items relevant, do they capture the nature of what is being measured, are they significant in the sense that they would be expected to impact on well-being (Brief & Atieh, 1987) and what needs to be done to avoid ambiguity and confounding; should instructions be general or specific and what does this mean in terms of what exactly is being measured; what is the appropriate response category and what needs to be measured to capture the essence of the experience; what is the most appropriate method of analysis and what do we learn from treating scales as being linear and additive?

Then, once we have gone some way towards resolving these issues, we can begin to explore a number of other issues that work stress researchers seem to have lost sight of, at least at the empirical level. These would include, for example, what are the relationships between stressors, is there some sort of accumulative affect – if so then how should this be measured? Could the role of a stressor be mediated through another for example, and does treating stressors as if they all occur independently of each other mean that we are significantly downplaying the complexity of the stressful experience? The same sort of questions could be asked when it comes to coping strategies; how are they used and if we better understood their use would this help in coming to more relevant conclusions about how coping strategies should be classified? These questions could be broadened out to include questions like have we failed to consider whether stressors may produce specific relationships? If so, should more care be taken when selecting a strain variable. Could it mean that at times a stressor has been declared as not producing an effect when it produces a very specific effect that has just not been measured? - See Cooper et al, 2001. Indeed the question of measuring strains and stress responses is one that deserves
more attention from researchers not just in terms of the specifics of the relationship between stressor, coping and strain but in terms of the way strain measures are selected and more importantly the role of emotions in stress research (Briner, 1999; Cooper et al, 2001; Lazarus, 1995).

**Qualitative approaches**

Refining measures is important. Too often in work stress research there is this sense of urgency to get on and examine complex relationships and so the relationships become the focal point rather than whether the measures being used actually measure the reality of what is going on. When the complexity of the relationship being measured is confronted then this raises the question of whether self-report measures can actually contribute (Coyne, 1997). There is now a growing body of research (O’Driscoll & Cooper, 1996; Erera-Weatherley, 1996; Oakland & Ostell, 1996; Stone, Shiffman & DeVries, 1999) that points to how the complexity and richness of the stress process may now best be explored using a qualitative approach. At times this sort of approach points to the richness of data derived from the use of such techniques as critical incident questioning (O’Driscoll & Cooper, 1996) or what amounts to an interview that ‘paralleled the diagnostic approach of a therapist’ (Oakland & Ostell, 1996:142) or by using open-ended questions that focus on ‘stress that evokes coping’ (Erera-Weatherley, 1996:159) rather than directly asking about coping itself. There is also a growing interest and respect for data collected through daily diaries (Stone & Neale, 1984; Stone, Shiffman & DeVries, 1999). Added to this, is the work of Tennen, Affleck, Armeli & Carney (2000) that combines the strengths of both qualitative and quantitative data collection methods and the work of Buchanan (1992) that explores some of the difficulties when combining qualitative and quantitative methods. It could be argued that such research now represents a strong force and one that better reflects the future direction of work stress research.

**Conclusions**

There is no doubt that work stress research has developed through a number of stages that reflect how stress has been defined and researched. There is now a sense that traditional measurement approaches may no longer capture the nature of the stress process and that the ideas embodied in the interactional perspective fail to adequately identify the stress of the stress process. This is not to imply that such approaches have failed to make a contribution to work stress. The need to define and understand stress in terms of the different constituent elements (stimulus, response and interaction) is not in doubt. What is in doubt is where does work stress research go from here? The answer provided by this presentation is that the transactional perspective offers, through the concepts of appraisal, those processes that link the individual and the environment. The transactional perspective may now reflect a common pathway that allows researchers to explore in a more meaningful way the architecture of the stress experience thereby fulfilling our social obligations to those whose working lives we study. Such an approach is not without its difficulties. However these difficulties will best be resolved by the thoughtful application of such a model (Harris, 1991) to work settings. Such an application will require that traditional approaches will now have to be reviewed and that accepted methods questioned as to whether they have the power to uncover the richness of the stress process. Alternative methods will need to be explored – not in the context of one approach replacing another but what approach is best if we are to understand the nature of the experience we are researching. Only then will we be able to reconcile theory, measurement and practice – a reconciliation that comes through sound empirical investigation and a willingness to try different approaches and new techniques that reflect the vision of the future rather than the debates of the past.

**References**


Mediators for Depression in the Unemployed: the Role of Avoidance.

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Many previous researchers have demonstrated an association between unemployment and mental health problems, particularly depression and anxiety, and avoidant coping styles have been linked to depression after job loss. This study aimed to clarify the role of mediators for depression in Liverpool, which has a problem of long-term unemployment. A community survey of adults aged 18 to 64, including data on employment category, and the Beck Depression Inventory (BDI). Interviews: those with BDI score>12 (mild/moderate depression), and a 5% sample below cut off. Structured Clinical Assessment in Neuropsychiatry (SCAN) to identify cases and the Problem Solving Inventory (PSI) of Heppner and Petersen (1982). Two classifications of unemployed were derived: “unemployed” (self-perception), and “jobless” (all those not in paid employment).

Seventy-three per cent of the unemployed had not worked for more than six months, and none of the unemployed cases of depression had found work at twelve month follow-up. Mean BDI scores were significantly higher in the unemployed and the jobless (p<0.001). Risk of BDI score>12 was unemployed: 2.14 (95% C.I. 1.32, 3.47), and jobless: 1.73 (95% C.I. 1.50, 2.00). Low problem-solving confidence and less avoidance were significantly associated with depression in the unemployed. Unemployed people in Liverpool were significantly more likely to be depressed than those in paid employment. Individuals who were confident problem solvers were less likely to be depressed and avoidance appeared to be associated with reduced risk of depression in the long-term unemployed.

Introduction

This paper examines the relationship between coping styles and depression in the unemployed.

Depression and Avoidance.

Previous research into factors influencing individual susceptibility to depression suggests that personal coping strategies may affect the risk of an individual developing a depressive illness under adverse circumstances. During a period of rising unemployment in Iceland, Smari et al. (1997) found that high scores for avoidance, as measured by the COPE (Carver et al., 1989) predicted the development of depression after job loss. Wanberg (1997) in the USA also found that avoidance was associated with depression in the unemployed, while people with more proactive coping styles initially had high levels of anxiety but were more likely to find another job and resume normal functioning. These findings suggest that during a period of widespread job loss, individuals with avoidant coping styles are less likely than more proactive people to find another job, and more prone to depression.

Uehara et al. (1999) looked at the relationship between the behavioural/cognitive response of individuals to uncomfortable or difficult situations using the Munich Personality Test (Sakado et al., 1997) and found that the social-adaptive component of personality was associated with avoidance-orientated coping. Van Lankfeld et al. (1994) suggested that different coping styles were advantageous in relation to aspects of living with chronic pain and disability (rheumatoid arthritis): active styles helped the individual to cope with limitations while avoidance increased general wellbeing.

These findings suggest that avoidance may be either associated with depression (Smari et al. and Wanberg), or an adaptive response which is protective against depression (Van Lankfeld et al. and Uehara et al.) according to the nature of the stressor.

Unemployment and Depression.

Many previous researchers have demonstrated an association between unemployment and mental health problems, particularly depression and anxiety (Feather and Davenport, 1981; Warr, 1984; Claussen et al., 1993). Individuals living in communities with high unemployment rates and resulting socio-economic deprivation are known to be at increased risk of mental health problems (Hendryx, 1997). Koppel and McGuffin (1999) suggested that unemployment rates may be a more sensitive indicator of psychiatric care needs than census-based indices of deprivation.

Liverpool has suffered from relatively high unemployment for some years, due to the decline of heavy industry and shipping. Regional unemployment rates in Merseyside are currently the highest in the
UK, at 10.9% of the population, with rates of up to 40% in some localities. This compares with a national average of 6.9%, and less than 3% in Surrey and Oxford (Labour Force Survey, 1998).

**Study Aims.**

This study aimed to test the hypothesis that while avoidance has been found to be associated with depression following job loss, the relationship between avoidance and depression may be different in the context of long term unemployment.

**Method**

The study commenced in July 1996, (Dowrick et al., 1998) with a postal survey of 1833 adults aged 18 to 64, randomly selected from general practice lists. The questionnaire included the Beck Depression Inventory (BDI) (Beck et al., 1961; reviewed Beck et al., 1987), which is a specific measure of symptoms of depression with a cognitive orientation, to reduce the risk of confusion with somatic illness. There were also specific questions on age, sex, employment status, and postcode.

The second phase consisted of interviews with respondents to the questionnaire who scored 13 or more on the BDI, indicative of mild to moderate depression, and a 5% sample below cut off. Interviews included the Structured Clinical Assessment in Neuropsychiatry (SCAN) (Wing et al., 1995) to identify cases of depression, an estimate of household income, and the PSI.

The PSI has been developed as an instrument to measure cognitive styles, particularly in relation to the individual's approach to problem solving. Estimates of validity suggest that it measures constructs which are independent from each other and amenable to change through training in problem solving, and for this reason it was chosen in preference to measures of coping style or personality. The interviewer relates questions to the subject's approach to a problem in their recent experience.

Interviews used questions from the PSI relating to problem-solving confidence and approach/avoidance. High scores denote low levels of confidence, and high scores for approach/avoidance signify a more avoidant cognitive style.

Two possible definitions of "unemployment" were derived from the data; those who described themselves as "unemployed" on the questionnaire, and a broader definition of "jobless" i.e. not in paid employment, including people who described themselves as unemployed, sick/disabled, looking after the home, retired, and "other". Neither of these categories is likely to correspond exactly to the ILO definition of unemployed. The "working" category includes everyone in paid employment, whether part- or full-time or self-employed.

**Analysis**

Data were weighted to allow for a) non-response at each stage and b) the numbers of interviewees above and below the BDI cut off, and analysed using the Statistics Package for Social Scientists (SPSS).

**Results**

Response to the postal questionnaire was 54%, and non-respondents were slightly more likely to be male, young and economically disadvantaged (according to postcode). 56.9% of respondents were employed, 6.9% unemployed, and 43.1% jobless. Adjusted prevalence of depression was 18% overall, but 25.4% of the unemployed and 20% of the jobless were SCAN cases of depression, compared with 12.5% of the working people.

Mean BDI scores for cases and non-cases in each occupational category are shown in the following table. Both the unemployed and jobless categories had significantly higher mean BDI scores than the working population (analysis of variance p<0.001). The unemployed had more than twice the workers' chance of BDI scores in the range for mild to moderate depression (Relative Risk 2.14, 95% confidence interval 1.32, 3.47).

**Length of Unemployment.**

None of the unemployed interviewees had worked in the previous month, and 73% had been unemployed for more than six months. Those who were diagnosed as cases of depression had been unemployed for between five months and eight years, and at twelve-month follow-up none of them had found a job. The subject with the longest history of unemployment (following redundancy eight years previously) was the only persisting case at twelve months, and of those who had recovered from their depression, two had changed their role perception: one to "off sick" and one to "looking after the home".
Depression and Problem-solving: confidence and avoidance.
Mean PSI scores for problem-solving confidence and avoidance (see table) show that the unemployed group were overall the least confident and most avoidant problem-solvers.

Low problem-solving confidence was significantly associated with depression in all employment categories, but was at its lowest in the depressed unemployed. However, non-depressed unemployed people were significantly more confident problem-solvers than non-depressed workers (p=0.002).

Unemployed people were significantly more avoidant problem solvers than the workers or the jobless (p<0.001). Approach/avoidance style was not significantly associated with depression in the working population, but there was a significant difference between approach/avoidance scores in unemployed people, depending on whether or not they were depressed (p=0.003). The more avoidant unemployed subjects were less likely to be depressed.

Discussion
Prevalence of Depression and Unemployment.
Adjusted prevalence of depression (18%) was higher than the 3.8%-8.8% found in previous studies of community prevalence (Bebbington et al., 1981; Vazquez-Barquero et al., 1987; Hodiamont et al., 1987; Lehtinen et al., 1990; Meltzer et al., 1994; Lepine et al., 1997).

6.9% of respondents considered themselves unemployed and 43.1% were not in paid employment, compared with the Merseyside unemployment rate of 10.9% in government statistics. This may be due to some subjects who would be included in the unemployment rates describing themselves by another label e.g. "looking after the home". However, the figure may be artificially low if unemployed people were less likely to respond to the questionnaire. It was not possible to reliably ascertain occupational status from GP records, but there was no evidence from GP case notes that respondents were any more or less likely to be depressed than non-respondents.

Unemployment vs. Joblessness.
Risk of depression was higher in the "unemployed" group than in the "jobless", possibly because the label "unemployed" could be seen as a negative role definition i.e. "lack of employment", whereas the remaining categories in the jobless group are all descriptions of a perceived role in life e.g. looking after the home, student, retired. Even "other" (an alternative lifestyle) and sickness/disability could be said to define a positive role for the individual (c.f. the sick role as patient work, Corbin and Strauss, 1988).

Jahoda (1983) considered that the adverse effects of unemployment may be partly due to reduction in social status and sense of personal identity, and this may explain why being unemployed seems to be a more negative experience than being jobless. To describe oneself as unemployed may also reflect failure to find meaning and purpose in life, which has been shown to be associated with adverse effects on mental health (Ezzy, 1993).

Other individuals in the jobless group who did not perceive themselves to be "unemployed", may have found more satisfactory alternative lifestyles associated with higher self-esteem and better mental health (Fryer and Payne, 1984). Our findings that two of the unemployed cases of depression who recovered classified their occupational status differently at twelve month follow-up, even though their circumstances were unchanged, tends to confirm this hypothesis.

Financial hardship was said by Warr (1985) to be the most significant risk factor for depression in the unemployed, and results confirm that subjects who describe themselves as unemployed were twice as likely to have a household income of less than £100 per week compared with the jobless, who may have occupational pensions, disability allowances etc. to supplement their incomes.

Another important difference between those who describe themselves as unemployed and the broader jobless category relates to their experience of how they are treated by others. Warr claimed that one of the significant factors in the development of depression in the unemployed is an increase in threatening and humiliating experiences associated with a decrease in the quality of interpersonal contacts e.g. signing on for unemployment benefits.

Approach to Problem-solving in the Unemployed.
A picture of a highly avoidant long-term unemployed population emerges from the statistics, in the context of which only the very confident problem-solvers were not depressed. Mean avoidance scores for the unemployed were almost twice those of the working population, and the less avoidant were more prone to depression. It is possible that avoidance may be an adaptive response to a problem which is perceived to be insoluble i.e. the depressed job market, or that those with avoidant personalities are better suited to the unemployed lifestyle.
This finding is at odds with previous research from Iceland and the USA suggesting that avoidance is associated with depression in the unemployed. The difference could partly originate from variations in employment opportunities and in the relative proportions of long- and short-term unemployment in the communities from which the sampling frames were derived. Following job loss, avoidance is associated with decreased likelihood of re-employment and may predispose to depression. However, in a situation of long-term unemployment, as in chronic illness, avoidance may protect against depression by encouraging the development of alternative lifestyles.

High unemployment rates may mean that joblessness is a normative experience within a community, minimising the adverse effects on individual mental health, but maximising the consequences for the community as a whole. Possible effects include the development of the black economy and informal labour market, with maximisation of welfare dependency, including medicalisation of unemployment, and high rates of claims for sickness and disability benefits (Ford et al., 2000). This may mean that in the long-term, economic regeneration may be inhibited in the area, as many people of working age are no longer available for work.

The conflicting findings from different studies may also partly be due to differences in the constructs measured, and their amenability to change over time. Personality measures are likely to be relatively stable, while cognitive styles may change according to life experiences.

Future study
A relatively low response rate and small numbers of unemployed people in the interview sample may have affected the validity of this study. Further work with larger numbers, including comparative samples in other areas of high unemployment e.g. South Yorkshire (loss of the mining industry) and in centres of acute job loss e.g. factory closure, and economic regeneration e.g. the North East, would clarify the relationship between unemployment, coping strategies and the risk of depression.

Conclusions

- Unemployed people in Liverpool were significantly more likely to be depressed than those in paid employment.
- Individuals who were confident problem solvers were less likely to be depressed.
- An avoidant coping style appears to be associated with a reduced risk of depression in the context of long-term unemployment, possibly due to the development and acceptance of alternative lifestyles to paid work. Such lifestyles may inhibit the process of economic regeneration and work resumption in the community.

<table>
<thead>
<tr>
<th>Employment status</th>
<th>Mean BDI score (Standard Deviation)</th>
<th>Mean avoidance (SD)</th>
<th>Mean problem solving confidence (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working overall</td>
<td>7.02 (6.55)</td>
<td>29.29 (13.30)</td>
<td>14.87 (9.69)</td>
</tr>
<tr>
<td>Working depressed</td>
<td>16.35 (8.16)</td>
<td>28.93 (12.66)</td>
<td>19.82 (9.26)</td>
</tr>
<tr>
<td>Working non-case</td>
<td>8.16 (5.43)</td>
<td>29.33 (13.30)</td>
<td>14.20 (9.58)</td>
</tr>
<tr>
<td>Unemployed overall</td>
<td>11.26 (10.44)</td>
<td>56.24 (19.48)</td>
<td>19.48 (9.69)</td>
</tr>
<tr>
<td>Unemployed depressed</td>
<td>32.17 (13.15)</td>
<td>29.33 (15.50)</td>
<td>28.50 (16.15)</td>
</tr>
<tr>
<td>Unemployed non-case</td>
<td>3.09 (7.27)</td>
<td>63.16 (13.61)</td>
<td>4.86 (9.48)</td>
</tr>
<tr>
<td>Jobless overall</td>
<td>12.36 (10.64)</td>
<td>36.43 (18.13)</td>
<td>16.02 (13.97)</td>
</tr>
<tr>
<td>Jobless depressed</td>
<td>26.17 (8.79)</td>
<td>34.55 (17.97)</td>
<td>25.68 (12.73)</td>
</tr>
<tr>
<td>Jobless non-case</td>
<td>6.72 (5.94)</td>
<td>37.05 (18.24)</td>
<td>12.89 (12.93)</td>
</tr>
</tbody>
</table>

References


New Forms of Work Organizations and the Consequences – a Case Study

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Background
This case study is part of a research program involving several studies dealing with the consequences of the transition from traditional to flexible types of work organization. The focus of the research is companies which had been changing from a traditional work organization with many middle managers, narrow jobs for individuals, a low degree of autonomy and limited use of continuing training, to a work organization characterized by a more flexible and flat organization with few middle managers, group-based broad jobs, a high degree of autonomy and a widespread use of continuing training and education. To a large extent this type of transition seems to be an international phenomenon which can be observed throughout the western world (OECD, 1996).

Objectives of the case study
The majority of the literature concerning the consequences of this transition for the working conditions and work load indicates and discusses opportunities for positive development in the modern and flexible enterprise (Lewin & Stephens, 1995; NUTEK, 1996; Lawler, et al., 1995; Womack, et al., 1991; Piore & Sabels, 1984). However, can this transition also have unintended and unrecognized consequences for the employees and for the dynamics in the organization.

We are particularly interested in ascertain whether such changes creates new forms of micro-marginalization. Micro-marginalization refers to changes in the position of individuals and groups of workers, in which they become more exposed to the threat of job-loss through the loss of status, especially in the form of diminishing competence and qualifications.

The case study has two main objectives:
1. To describe the process of transition from a traditional to a flexible work organization in a specific company
2. To evaluate the consequences of this process for micro-marginalization

It is a case study of a company producing printed circuit boards for further processing in the electronics industry. The description and analysis are based on interview with thirty two employees including higher and lower management, shop stewards, safety representatives and eighteen workers.

The process of reorganization of the manual production
The study focuses on the manual production in the company. Most of the work involves fitting components by hand in the circuit boards, soldering, testing and final fitting. This work is primary carried out by unskilled female workers.

Before the process of transition, the jobs were organized according to tayloristic principles. Each job was characterized by a few simple and monotonous work functions. The individual worker conducted very rigid work, performing the same very narrow tasks day after day. The possibilities for an individual's influence over their task were minimal, and there was no need for cooperation between workers, and supervisors controlled details of the daily level of output.

Physical and mental fatigue was significant and many employees suffered from serious physical health disorders. The interviews with the workers further indicated that they felt very humiliated and had damaged feelings of self-worth.

During the 90’s the work organization was gradually changed. Initiation of the change process was fuelled by a major economic crisis in 1992. The interviews were conducted in Spring 1999, but the change process did not stop at that time. It should be noted that the interviews are a retrospective reconstruction of the change process. As such, biases due to distorted memory and a certain amount of repression of frustrations and conflicts through the change process may be implicated.
In the first two years of the change process, the most important changes were a massive reduction of the number of supervisors and, to some extent, of lower management, and formation of work groups with workers who performed the same type of tasks.

Most of the workers described this period as rather frustrating with a lack of clear goals and perspectives. A typical comment was that, “Before we could not decide anything. Suddenly we should decide everything, but we did not know how much we could decide or what the limits were”. This situation created a great deal of stress and anxiety due to uncertainty of the possibilities of fulfilling these new demands.

After this rather turbulent period of one to two years, the following process took place in a more gradual and planned manner. In the next couple of years the most important changes were a stepwise increase of the work-groups' tasks, responsibility and competence. Former supervision tasks such as coordination of daily production, allocation of tasks among the workers, quality control, planning of days-off and holidays and coping with sick-leave were delegated to the groups.

Since 1997 the change process has been focused on more systematic and goal directed activities in relation to increasing possibilities for job-rotation. The work-groups were reorganized so that all types of tasks were included in the group. The group members should, in principle, rotate between several different types of functions on a day-to-day basis. They also focused on developing more extensive educational and training programs and a more thorough evaluation of the needs of the individual worker.

At the time of interviewing, the work had been organized in self-governing groups who had responsibility for planning the daily production, planning job-rotation, and controlling the quality of the products.

In relation to the process of transition, it is important to underscore that the consequences of new forms of work organization seem to be changing throughout the process. In this case study, the workers experienced high levels of frustration and pressure during the time period after initiation of the changes. These reactions later diminished, and, at the time of interviewing, the evaluation of the process both among workers and supervisors was very positive.

**General consequences of the process of transition**

The process of transition had a number of intended positive consequences both from the perspectives of the workers and the supervisors.

Through the process, the uncertainty regarding the goals of the change process and the competence of the self-governing groups were reduced. This meant that the members of the groups to a higher degree knew what they could decide on their own and in which situations the supervisor should be consulted.

The stability of the groups increased. Amongst other things this development reflected a change in the supervisors' interactions with the groups. In earlier stages of the change process they perceived the groups as secondary to the tasks. At the time of interviewing, the tasks were allocated to the groups instead of allocating individual workers to the tasks.

In the interviews, all the workers and supervisors described that the social and emotional climate in the groups with female workers could be rather tense. A typical dynamic in the groups were that a few members dominated or “wanted to take all the decisions”, which often led to conflicts and in some cases to bullying and minor psychological breakdowns. Such problems were very prevalent in the first few years of the process, where the level of uncertainty was most pronounced. As a consequence of former passive members taking more active participation in the groups' decision-making process and a greater recognition by the supervisors of formally prescribed roles and task functions, this kind of group-dynamic diminished to a certain degree.

An important consequence of the change process was that the individual worker performed more varied jobs and experienced increased confidence in relation to their competence. This development followed from the increased amount of job rotation and from the fact that most of the workers had experienced that they could perform more complicated and varied tasks than they had imagined at the earlier stages of the change process.

Reduced fatigue and health disorders also seemed to be a very important general consequence of the change process although we cannot document this trend in a strict manner. But it is very clear from the interviews that individual workers with serious health complaints and injuries could manage the job situation due to job rotation, and this gave a great deal of meaning to the changes process for the whole workforce.

The overall positive evaluation of the process from the workers perspective was reflected in the fact that most of them were proud to say that, “we now manage the whole by ourselves”. It is
difficult to overestimate the psychological importance of such remarks because they indicate a rather
dramatic positive development in the conception of the self and of self-awareness.

**Dilemmas and adaptation-strategies**

Besides these positive consequences, the interviews also revealed a range of dilemmas and adaptation
strategies at the group-level and the individual-level. Most of these dilemmas and strategies were not
recognized by the employees or supervisors and therefore represent interpretations from the interviews
rather than descriptions.

The most pronounced of these dilemmas and strategies can be conceptualized as the increased
risk of marginalization due to the process of transition. Three interrelated types of risk of
marginalization could be identified.

The first type is the risk of marginalization in relation to the increased task demands. This risk
is caused by several interrelated factors.

The most important factor is the groups’ practice of allocating tasks. This practice could be
described as a strong informal specialization. Although, in principal, most employees should perform a
large number of different tasks and functions, it was not unusual that many group members only
performed a small part of these.

There were some objective causes for this practice. Most important was that management
demands for productivity and quality of the products in some periods resulted in a high degree of time
pressure. In these periods, job rotation tended to diminish or disappear. Often the “weakest” workers
ended up with the worst jobs. Many workers complained that the standards of production were set
without enough consideration of the periodic decrease in productivity when less-skilled workers were
given demanding tasks. Job rotation was also difficult due to the complexity of the process of
allocating tasks among group members, and due to the fact that each workplace had to be adjusted to
the individual worker at that place. Frequent shifts increased the amount of “dead” time used to adapt
these places to new workers.

Furthermore, there was a lack of varied and complicated tasks in some of the groups. This
meant that less assertive or skilled workers tended to come last in the queue.

An important subjective reason for the informal specialization was that some of the workers
lacked self-confidence. This was expressed as a fear of not being able to manage the tasks sufficiently.
Thus the possibilities for variations in tasks had been used in a limited manner in most of the groups.

The informal specialization in the groups can be conceptualized both as an adaptation strategy
and as a dilemma. It was an adaptation strategy because in this manner the groups reduced the demands
for transition. It was a dilemma because the strategy at also reduced the pressure on the individual
group member and increased the risk for marginalization in the long run due to lack of development of
qualifications and competence by the “weakest” of the group members. It was also a dilemma at the
level of management because, during certain periods, the management put so much time pressure on
the groups that this inhibited development of a high degree of flexibility which the management and
also many workers wanted.

The second type of risk of marginalization relates to increased social demands. This risk is
also caused by several interrelated factors.

The process of transition created expectations in some of the workers of further possibilities of
influence and development of competence, whilst other workers had difficulties in coping with the
actual level of demands. These differences in expectations created tensions in some of the groups and
indicate another type of dilemma in the process of transition. The implications were increased visibility
of individual deficits and increased risk of lack of support to the “weakest” group members.

The process of transition also created a situation with unclear and conflicting expectations
between the groups and supervisors in relation to the socio-emotional aspects of group life (Brown,
2000). The groups wanted a greater psychological distance to the supervisor but in some situations had
a need for support from the supervisor to solve tensions or conflicts. The supervisors had very scarce
information about the group dynamics and were very uncertain in relation to their roles and
competence in this area. As a consequence they also kept a psychological distance to the inner life of
the groups. The term “twilight zone” can be used to describe the dilemmas and adaptation strategies in
this situation.

A serious consequence was that both workers and supervisors to some degree lacked language
and concepts relating to group dynamics, and that a tradition for training activities and learning was not
established. A minority of workers seemed to lack social competence in relation to life in the groups
and psychologically withdraw from the group. This was often understood as a lack of cooperative
attitudes but could in fact reflect lack of possibilities for training.
The third type of risk of marginalization relates to demands of education and learning. As mentioned earlier, the company had developed rather extensive programs for education and training. The programs facilitated coping with the increased demands for most of the workers. However, some of the workers perceived this situation as a threat and tried in many different ways to escape joining some of the educational activities. The problem was especially manifest in training courses in use of computers. Important reasons for this type of marginalization seemed to be that many workers lacked elementary competence in writing and reading. The demands of education had therefore released feelings from childhood of anxiety and incompetence.

So it could be concluded that the interviews both with the workers and the supervisors in spite of the general positive consequences of the process of transition also demonstrated increased risks of new types of marginalization. One of the supervisors estimated that 20% of the workforce had deficits in one or several of the mentioned demands and therefore were in risk of marginalization.

**Risk of marginalization and manifest marginalization**

The risks of marginalization were only reflected in manifest marginalization to a limited degree. The concept of manifest marginalization refers to a situation where the co-workers or supervisors experience and assess that a specific individual (or group of people) has difficulties in fulfilling the increased demands.

Three of the aforementioned characteristics with the implementation of the process of transition can explain some of this difference: the gradual process of reorganization and the limited pressure on the individual worker, the informal specialization in work groups, and the high level of educational activities.

Two aspects relating to the company as a whole are also important. The first aspect is a negotiated contract between management and full-time employees which was established in 1995. Under the contract, the management is provided with greater flexibility in relation to working hours and in return the full-time employees have a greater job security. On the other hand it has become more difficult to obtain full-time work at the company. This trend is seen in the dynamics of the groups. The internal loyalties in the groups overshadow consideration for people on the outside that want a job in the company. Therefore there are strong incentives within the groups to help keep hold of colleagues even though these colleagues may find it difficult to cope with the new demands of work.

The second is that since the onset of the change process, the company did not have any economical crises and therefore no need to reduce the work force for economical reasons.

**Conclusions- changed conditions for the function of the organization as a whole**

It can be concluded that the process of transition and the organization of work in self-governing groups had important intended and unintended consequences for the function of the organization as a whole.

The self-governing groups became very important entities in the organization and represented to a certain degree a change in the balance of power between workers and supervisors. Another consequence was that an understanding of the life and production in the organization demanded internalization of new concepts and a new language with relation to group dynamics. That is the reason why establishing training activities and holding open discussions of experiences with working in the groups are important.

Furthermore, the process of transition tended to divide or split the work force. Some workers expected increased possibilities for individual development and collective influence. They wanted to speed up the change process and reacted with frustration in situations where such possibilities diminished. Other workers had difficulties in coping with the actual demands and did not want new changes.

Allocation of work tasks between groups became a new source of conflict. The supervisors and the organization as a whole need be able to handle such situations.

As described, the change process also contributed to increased risks of new forms of marginalization due to the adaptation strategies in the groups, pressure for high productivity and dilemmas of social nature. The workers and the supervisors did not recognize many of the adaptation strategies and the related dilemmas. In this sense the process of transition developed a new set of strong, but unconscious, dynamics.

It is an important conclusion that the consequences of new forms of work organization are changing throughout the change process. At the time of interviewing, there was a trend to increasing impatience and diminishing tolerance in relation to the “weakest” workers both in the groups and especially among the supervisors. Due to this fact and due to some of the described dynamics, an
increased manifest marginalization can be expected in the near future unless the company reduces the pressure on the groups and there is a diminishing of the informal specialization in the groups.

The overall conclusion is that the dynamics in, and the consequences of, self-governing work groups depend to a high degree on several factors and conditions in the specific organizational context. Theories and investigations in this area must therefore include this context.

References

A Case Study in Reducing Work Pressure

S. FRIELINK

Introduction

In this extended abstract the concept of work pressure is used to indicate a situation where employees are confronted with high demands and low control. The concept is used within Karasek’s DC-S framework (Karasek and Theorell 1990).

Work pressure is an important problem in the Netherlands and throughout Europe. Current research (Houtman, Smulders en Klein Hesselink, 1999) indicates that work pressure has been increasing in the Netherlands for years and that of all the countries in Europe, the Netherlands is most affected in this respect. In 1997, as many as 43% of Dutch employees indicated that they regularly, or usually, had to work at a high pace. A third of the employees who have been diagnosed ‘disabled for work’, and receive social security benefits, suffer from mental health problems such as burnout. Health care has been found to be one of the branches with the highest work pressure and high burnout scores (Otten, 1999).

Effective measures against work pressure are therefore desperately needed to prevent large-scale staff losses (and the resulting strain on the system). Research literature on the effectiveness of measures against work pressure and/or stress at work is scarce. This may not be surprising since it is a very complex matter. Griffiths (1999) indicates that research based on randomized clinical trials is practically impossible in the dynamic environment of organizations, which seriously limits the possibility of establishing cause and effect relations in this field. Recently Kompier and Cooper (1999) evaluated 11 case studies in stress prevention and improving productivity in as many European countries. They have not been able to identify (the most) effective measures to prevent stress, but they have found criteria for the process that will help companies to prevent stress at work. They have found five factors for successful stress prevention:

1. a stepwise and systematic approach (a proper sequence of problem solving and a clear determination of aims, tasks, responsibilities, planning and financial means)
2. an adequate diagnosis or risk analysis.
3. a combination of work-directed and worker-directed measures.
4. a participative approach (involvement and commitment of both employees and middle management)
5. top management support

TNO approach to work pressure

TNO defines work pressure as a specific work characteristic: work pressure exists if employees are structurally unable, or only with great difficulty able, to meet the demands placed upon them and they cannot change the situation that is the source of such difficulties (Vaas, 1999). Each task contains certain quantitative and qualitative standards. Central to the approach is the concept of (quantitative or qualitative) work standards that are not being met. The solution to reduce work pressure is to achieve realistic, attainable goals. This means adjusting unattainable goals and broadening the possibilities of employees by providing more control over their work (more autonomy, more possibilities for contact, more organizing tasks etc.)

TNO has developed a participative approach to work pressure that can be applied to small organizations or departments. It consists of five steps:

1. Making an inventory of employees’ work activities to gain good insight into the work process
2. Making an inventory of all the standards that are observed in relation to quality, quantity and delivery time. This does not only mean looking at formal standards, but also at informal standards and expectations of colleagues, management and clients.
3. Group discussion 1: Making an inventory of the problems that exist in achieving the qualitative and quantitative standards and estimating the seriousness of the consequences.
4. Group discussion 2: Identifying possible causes and making an inventory of or developing solutions.
5. Group discussion 3: Selecting measures that can be used to rectify operational problems.
The TNO approach combines diagnosis and development of effective measures. Establishing, for each part of the work process, whether the standards are being met, completes the diagnosis. Measures are developed using a systematic analysis of problems that prevent standards from being met.

In 2000, TNO evaluated 16 work pressure projects that took place in the past five years. The aim was to collect data to improve our service. One of our questions was which type of projects, and which measures, have resulted in the best reduction of work pressure. This last question has been hard to answer, since there was an enormous variety in types of clients, in their goals with the project and in the exact process that took place. It turned out to be impossible to conclude which type of project / process / measure was most effective in reducing work pressure. This is in line with the findings of Kompier and Cooper, they were also unable to identify ‘the most effective measures’. Nonetheless, there was a lot to learn from the results of this evaluation. One of the cases represented a very successful implementation of the participative approach and its potential to reduce work pressure.

**Aim**

In this abstract specific process and measures taken in this case are highlighted, and subsequently related to those reported by Kompier and Cooper (1999).

**Case: a nursing home in the Netherlands**

The first contact between this client and TNO was in 1996. In that time nursing homes in the Netherlands were under considerable pressure (and are still…), not only was their population becoming more and more care-dependent (since more independent elderly stayed at home longer). At the same time, government and insurance companies were cutting the budgets. This combination led to an increase in workload while at the same time the impossibilities to comply with this need for care increased.

This case concerns a nursing home in the center of the Netherlands. It provides care for 270 elderly patients, which makes one of the largest nursing homes in the country. The organisation consists of five care departments (varying in the nature of care that is provided) and several supportive departments, such as kitchen and cleaning.

Our contact was a new and enthusiastic occupational psychologist, with a position supervising the heads of care departments, reporting direct to the top manager. She sought ways to involve employees in the improvement of care quality and at the same time reduce work pressure.

This was the situation when TNO was contacted. The client had these questions:

- Is work pressure apparent in the care departments and middle management?
- If so: what are the causes?
- Which measures should be taken to reduce it?

In this case, the TNO approach is applied to 2 care departments and the nightshift.

**Results**

In the care departments and the night shift 3 problems were analyzed. The middle managers also analyzed 3 problems. Examples of measures that were developed and implemented:

- In situations where tasks, responsibilities and competences were unclear (resulting in uncoordinated, unproductive working and problems not being properly addressed) these were clearly defined.
- Tasks concerning care for clothing of patients, keeping in contact with the patient’s family, keeping the nursing plan up to date etc were transferred to the new position of “contact nurse” (primary nurse). These used to be tasks for the head of department and from the analysis it was clear that this caused many problems. Now there is one contact nurse for every 10 patients, which is sufficient to fulfill these tasks, but also to develop a more patient-directed form of care.
- Middle managers have been withdrawn from the care giving process and they now focus on coaching their employees.

In addition the nursing home reports, 4 years after the project, these gains:

- There is more clarity in tasks and standards.
- There are data of compliance to standards, which provides information on work pressure, but also on the quality of care provided.
Nurses have learned a practical way of analyzing and solving work problems. There have been spontaneous actions from departments, which helped to improve their work and working conditions.

There is a broad commitment to changing the organization from task-oriented to patient-oriented.

The development of more unity in thinking about quality of care and more involvement of employees in this. Since many more changes in national health policy and changes in population are expected, this is, in the long run, an imported asset for an organization that wishes to control work pressure.

An unintended effect is that with this process, an awareness of care quality arises that leads to even higher standards (which in turn leads to higher workload). The overall work pressure has not been lowered. The established gain in efficiency has been balanced by an increase of care dependency of the patients. There is, however, more control over work pressure and the impression is that many nurses experience more fulfillment from their jobs.

Success factors
This case seems to be a fairly successful example of what can be the gains of an effort to reduce or control work pressure. The factors of success are:

- An active member of higher management dedicated to involve employees in their work and with sufficient influence to ‘get things done’. This person has been very active in the hole process, actively joining group meetings and functioning as the ‘linking pin’ to higher managers. She still holds the same position in the organization (it is now 4 years since the project).

- Due to the active involvement of employees and management there has been no problem in the implementation of measures. The consultants did not operate from behind the consultants’ desk, but worked in direct contact with the people concerned, giving them opportunities to improve their own work. The project did not stop after the consultant had left.

- This has not been a ‘one time only’ project, the organization has learned the method to improve their work and to control work pressure and they still use it. The need to explicitly state the standards of care that were applicable, has been very educational for management and this way of thinking is still dominant when it comes to changing things in the organization.

In this list most of the success factors stated by Kompier and Cooper (1999) can be recognized:

- There has been a stepwise approach, with a proper sequence of problem solving and with clear goals and tasks.

- There has been a diagnosis or risk analysis. Although the TNO approach combines diagnosis and development of measures in one process, the report that was written after the meetings clearly contained a diagnosis confirming (in a qualitative way) that there is work pressure and indicating the causes.

- There has not been a combination of work-related and worker-related measures. Measures were only work-directed. This has been a truly preventive project, which made worker-related measures unnecessary.

- We clearly recognise the participative approach.

- There has been sufficient support from top management.

Conclusion
With Griffiths (1999), and Kompier and Cooper (1999) we acknowledge the problems in identifying the most effective measures to reduce work pressure. The presented case illustrates the importance of the right process, since what should be the right measures is very much depending on the local situation.
References
The Role of Job Control, Job Satisfaction and Mood in the Reporting of Symptoms Associated with Sick Building Syndrome

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There is evidence to suggest that demographic and psycho-social factors might be at least as important as the external working environment in predicting self-reported symptoms compatible with Sick Building Syndrome (SBS). Relationships between symptoms typical of SBS and a range of demographic, work-related and psycho-social factors were examined in 112 office-based workers located in four buildings with no known environmental problems. Contrary to previous research findings, no gender differences were found in the prevalence of SBS symptoms. The study suggests that job-related anxiety, low levels of job control, trait negative affectivity and young age are independent predictors of self-reported SBS symptoms.

Introduction

A body of research has linked the indoor environment to a cluster of symptoms that typically grow worse when the individual is in the workplace, and disappear or diminish when they leave (Bauer et al, 1992). The World Health Organisation (WHO) introduced the concept of ‘Sick Building Syndrome’ (SBS) in 1982 as a combination of symptoms perceived by inhabitants of buildings with climate problems (WHO, 1983). Whilst mucosal and skin irritations tend to be the most commonly reported symptoms of SBS, additional clinical features elicited during investigations of complaints among building occupants typically include eye, nose and throat problems, musculoskeletal problems, poor concentration, dizziness, headache and fatigue (WHO, 1983; Bachman & Myers, 1995; Ooi & Goh, 1997). SBS is perceived as an emerging and significant problem in many countries (e.g. Stenberg & Wall, 1995). A report for the Health and Safety Executive by Raw (1992) estimates that 30-35% of new or refurbished buildings in the UK are affected, with up to 55% of staff working in air-conditioned buildings reporting symptoms associated with SBS.

A number of characteristics of the indoor environment have been related to SBS symptomatology. These include air quality, humidity and temperature (Ryan, 1992; McNatt, 1999); dust (Kildesco, Wyon, Skov & Schneider, 1999); poor lighting (Raw, 1992); air contaminants (Arnetz, 1998); tobacco smoke (Bauer et al, 1992); and visual display terminal use (Hedge et al, 1992; Ooi & Goh, 1997). The label ‘Sick Building Syndrome’ implies that symptoms are caused by building-related factors. Whilst there is supportive data to link the objectively measured indoor environment with self-reported symptoms (e.g. Bachman & Myers, 1995; Sternberg & Wall, 1995), an epidemiological study of 2160 office workers in 67 locations by Ooi & Goh (1997) found that factors related to the physical environment were insufficient by themselves to account for the reported SBS symptoms. Rothman & Weintraub (1995) also indicate that no specific environmental cause has been identified in 75 per cent of SBS cases. Recent research highlights a range of non-environmental factors that researchers such as Bachmann & Myers (1995) believe might be more predictive of SBS symptom reporting than actual physical exposure.

A number of demographic variables have been linked with increased symptom reporting. Studies of office workers in several countries have found SBS symptoms to be more common in women (e.g. Skov, Volbjorn, Pedersen et al, 1989; Jaakkola, Heinonen, & Seppanen, 1991). An epidemiological study of 4943 Swedish office-based staff conducted by Stenberg & Wall (1995) found the overall prevalence of SBS for females to be approximately three times that for males. Such findings are in accordance with non-occupational studies that have found minor somatic complaints to be more frequent in women (e.g. Verbrugge, 1989; Popay, Bartley & Owen, 1993). However, Stenberg et al (1995) and Rothman & Weintraub (1995) suggest that females report more SBS symptoms than men as they are more likely to be employed in occupations or places of work which have the environmental and psycho-social characteristics associated with the syndrome – including lower job status and less autonomy. Whilst the majority of published research reports no age differences in SBS symptoms, a study of over 2,000 office workers by Ooi & Goh (1997) found an increasing prevalence of self-reported ailments in younger age groups.

The perception of SBS symptoms has also been shown to be influenced by work-related psycho-social factors. Ooi & Goh (1997) found self-reported occupational stress to be the most significant predictor of complaints. Hedge (1996) indicated that job satisfaction had a significant influence on the number of SBS-related symptoms reported by participants. High workload has also been highlighted as a risk factor in investigations of SBS in a range of different settings (Bachmann &
Myers, 1995), as has the existence of unsatisfactory personal relationships at work - in particular a poor climate of co-operation, and dissatisfaction with supervisors and colleagues (Skov et al., 1989). Psychological symptoms have also proved to be a significant predictor of self-reported SBS symptoms (Bachmann & Myers, 1995), although the authors acknowledge that it is not clear whether psychological ill health is a cause of somatic symptoms, an effect or a buffer variable.

The available literature on the link between job characteristics and health is extensive. In particular, low levels of perceived control are commonly linked with negative health status (e.g. Spector, 1986). It has been suggested that lack of perceived control at work might be positively related to SBS symptoms (WHO, 1983; Rothman & Weintraub, 1995), although this hypothesis has not yet been systematically examined. Whilst Bachman & Myers (1995) assessed the impact of job control on SBS symptom prevalence in their study of 624 office workers in three buildings, global ‘work control’ was measured by a single item only.

Little is known about the relationship between SBS symptoms and affective state. A body of research has linked depression and anxiety with self-reported somatic symptoms – particularly amongst females (e.g. Linden, Paulhus & Dobson, 1986). Although links between psychological health and physical symptoms typical of SBS have been investigated to some extent (Bachmann & Myers, 1995), the relationship between work-related mood and symptom reporting has not yet been examined. It could be argued that physical symptoms that are attributed to the work environment are likely to be strongly related to negative mood perceived to be originate in the same domain. A body of research supports a positive relationship between trait negative affectivity (NA) and self-reported health status (Watson, Pennebaker & Folger, 1987; Parkes & von Rabenau, 1993). Individuals scoring high on NA have a tendency to experience a wide range of negative emotions and communicate more symptoms of ill-health. As yet, however, the role of NA has not been explored in the context of building-related symptomatology.

To summarise, in order to examine the role of non-environmental factors in symptom reporting, this study aimed to examine relationships between symptoms compatible with SBS and a range of demographic, psychological and work-related variables. These variables include gender, age, working hours, visual display unit work, negative affectivity, work-related mood, job satisfaction, and job control.

Method

In the present study, 112 office workers completed a series of questionnaires. Participants were 47% female with a mean age of 32 (SD = 10.3) and worked for organisations situated in four different buildings. Prior to the survey, the Facilities Manager of each building completed a short questionnaire assessing environmental factors associated with SBS to ensure that there were no recognised problems. Participants were informed that this was a health survey of office workers (SBS was not mentioned). As clinical consensus on what exactly constitutes SBS is lacking (Ooi & Goh, 1997), it was decided to adopt the WHO definition of the syndrome which relies exclusively on perceived symptoms.

The questionnaires comprised:

- Demographic and work-related data (e.g. gender, age, job title, average working hours, average amount of time spent working with computers per day)
- A checklist of perceived symptoms typical of SBS which was designed specifically for this study. Questions on symptoms and their prevalence, and the instruction format used, are compatible with the WHO description of SBS (1983) and similar to those employed in a number of recent studies (e.g. Bachmann & Myers, 1995). Two scores were obtained. Firstly, if variables were experienced ‘always’, ‘regularly’ or ‘often’ they were defined as present, and if ‘sometimes’ or ‘never’ they were defined as absent. Secondly, a summary score for each participant was obtained by adding the scores for each symptom (19 items, $a = 0.84$).
- Job control: Dwyer & Ganster, 1991 (22 items, $a = 0.85$)
- Intrinsic and extrinsic job satisfaction: Warr, Cook & Wall, 1979 (15 items, $a = 0.93$)
- Job-related anxiety-contentment and depression-enthusiasm: Warr, 1990 (12 items, $a = 0.95$)
- Positive and negative affect schedule (PANAS); Watson, Clark & Tellegen, 1988 (20 items, $a = 0.85$)
Results

As no significant differences were found between the four buildings for any of the main variables, all data was aggregated. Women had significantly lower scores for job control than did men ($t = 2.64$, $p<0.01$), and slightly higher levels of intrinsic job satisfaction ($t = 1.93$, $p<0.05$), but no gender differences were found in work-related mood or NA scores.

The most commonly reported symptoms compatible with SBS were fatigue, musculo-skeletal problems, headaches, dry throat and eye irritation. Table 1 itemises the frequency of symptoms reported by participants.

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Musculoskeletal</td>
<td>41.4%</td>
</tr>
<tr>
<td>Fatigue</td>
<td>40.5%</td>
</tr>
<tr>
<td>Headaches</td>
<td>24.1%</td>
</tr>
<tr>
<td>Inability to concentrate</td>
<td>21.6%</td>
</tr>
<tr>
<td>Skin dryness</td>
<td>20.9%</td>
</tr>
<tr>
<td>Drowsiness</td>
<td>20.0%</td>
</tr>
<tr>
<td>Dry throat</td>
<td>15.2%</td>
</tr>
<tr>
<td>Nasal congestion</td>
<td>14.4%</td>
</tr>
<tr>
<td>Eye irritation</td>
<td>12.6%</td>
</tr>
<tr>
<td>Skin irritation</td>
<td>11.8%</td>
</tr>
<tr>
<td>Sneezing</td>
<td>11.7%</td>
</tr>
</tbody>
</table>

Contrary to previous findings that symptom prevalence is higher in females, no gender differences in the frequency and pattern of reported SBS symptoms were found (with the exception of women reporting more work-related headaches, $t = -3.77$, $p<0.001$). There was no relationship found between the average number of hours worked and symptom prevalence. The extent of self-reported symptoms also did not differ significantly between smokers and non-smokers. Previous research has found working on visual display units to be a considerable risk factor, but the current study failed to support such a relationship. However, length of time per day spent working with computers was positively related to the following symptoms: headache ($r = 0.25$, $p<0.05$); fatigue ($r = 0.25$, $p<0.05$); and eye irritation ($r = 0.30$, $p<0.01$).

As expected, SBS symptoms were negatively correlated with intrinsic ($r = -0.31$, $p<0.01$) and extrinsic job satisfaction ($r = -0.27$, $p<0.01$); perceived job control ($r = -0.28$, $p<0.01$); and positively related to job-related depression ($r = 0.38$, $p<0.01$) and anxiety ($r = 0.40$, $p<0.01$). Gender differences were observed in the relationship between SBS symptoms and job-related mood. Whilst for females self-reported symptoms were positively correlated with job-related depression ($r = 0.48$, $p<0.01$) and anxiety ($r = 0.49$, $p<0.01$), the relationship between symptoms and depression was considerably lower for male respondents ($r = 0.29$, $p<0.05$) with no significant correlation observed between SBS complaints and job-related anxiety.

Stepwise multiple regression analysis, with SBS symptom score as outcome, indicated that anxiety, low perceived job control, negative affectivity, and young age were significant independent predictors of self-reported SBS symptoms. As can be seen in Table 2 below, four variables explained 48% of the variance in SBS scores:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
<th>Sig.</th>
<th>$R^2$ ch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td>0.57</td>
<td>0.001</td>
<td>0.255</td>
</tr>
<tr>
<td>Job control</td>
<td>-0.25</td>
<td>0.001</td>
<td>0.122</td>
</tr>
<tr>
<td>N. affectivity</td>
<td>0.34</td>
<td>0.01</td>
<td>0.069</td>
</tr>
<tr>
<td>Age</td>
<td>-0.20</td>
<td>0.05</td>
<td>0.033</td>
</tr>
</tbody>
</table>

Discussion

This study suggests that several demographic and psycho-social factors are related to the reporting of symptoms compatible with SBS. The importance and difficulty of understanding the contribution of psychological and social processes to the attribution of blame for symptoms to the external work environment is highlighted here. Whilst there were no known environmental problems that could be linked with the SBS phenomenon in any of the four buildings sampled, a relatively high rate of symptoms compatible with the syndrome were reported which respondents attributed to the external
working environment. The notion that these symptoms were actually caused or made worse by building factors cannot, of course, be ruled out. It is, however, surprising that there was no relationship between number of hours worked and SBS symptoms, as if symptoms were caused by environmental factors it would be reasonable to believe that the longer time an individual was exposed to that environment the worse their symptoms would be.

Intrinsic and extrinsic job satisfaction were negatively related to SBS symptom reporting. Ooi & Goh (1997) suggest that low levels of job satisfaction might make the individual more aware or critical of his or her surroundings – whilst job dissatisfaction did not predict self-reported symptoms in the present study, this hypothesis should be further examined. Bachmann & Myers (1995) also indicate that the ‘idea’ of SBS is likely to be influenced by social as well as environmental, demographic and psychological factors. Workers might become aware of symptoms, communicate them to their colleagues and together develop an idea of a ‘problem’ or a ‘sick’ building. This form of ‘social contagion’ should be further explored.

Job-related anxiety was the most significant predictor of SBS symptoms. This supports previous research on the role of anxiety in the reporting of somatic health complaints (e.g. Linden et al, 1986). Trait negative affectivity also had a strong relationship with symptoms compatible with SBS. Brief, Burke, George & Robinson et al (1988) have argued that, as it negatively colours perceptions and appraisals of the self and the environment, NA is likely to artificially inflate correlations between self-report measures of job stress and health-related outcomes. The recommendation by several authors that NA should always be measured and controlled for in such studies should perhaps be extended to future research into the SBS phenomenon.

As anticipated, job control was strongly related to self-reported SBS symptoms. Sternberg & Wall (1995) and Rothman & Weintraub (1995) have suggested that the gender imbalance in symptom reporting is, at least partially, attributable to women experiencing lower levels of job control. However, whilst the present study found control to be lower in female respondents, no gender differences in the prevalence and pattern of SBS symptoms were observed. In accordance with Ooi & Goh (1997), this study found that younger respondents reported more symptoms typical of SBS. It could be argued that younger office workers might be more likely to perceive lower levels of control at work than their more mature counterparts as, in general, they will have lower status jobs. Nonetheless, this study found that job control was not significantly lower in younger people. Future research should examine the role of various aspects of job autonomy in symptom reporting in greater depth, with a particular emphasis placed on gender and age differences.

The results of this study clearly indicate that psychological factors, as well as the objective physical environment, should be considered in future investigations of the SBS phenomenon. It is, however, difficult to isolate the direction of causality in a retrospective study. Future research should employ a larger sample and a prospective design to further investigate the role of demographic and psycho-social variables in symptom reporting. Directionality might be elucidated by longitudinal studies conducted in ‘problem’ buildings where workers could be followed from the time of inception of work to onset of any reported symptoms. In this manner, links between changes in the objective physical environment and subsequent health complaints could also be tracked.

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Designing and Managing Healthy Work: A Life-span Model

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This paper attempts to address four questions. Do we need to consider people's age when designing and managing work? What do we know about the relationship between work performance and age? What are the work-related health problems of older workers? And finally, what implications can we draw for a future strategy? The overall aim of the paper is to communicate the nature of the current challenge, and to outline how occupational health psychologists are in a powerful position to provide a significant contribution.

Introduction

Europe is now facing a positive situation in which many of its citizens will live longer than ever before. However, the economic implications of these demographic changes are considerable. In Great Britain, for example, whilst there were 4.4 workers for every retired person in 1990, current projections suggest that by the year 2030 this ratio will drop to 3.2 workers per retired person. In Finland, the ratio will drop from 5.2 to 2.5 workers per retired person, in the Netherlands from 5.4 to 2.6 and in Portugal from 5.6 to 3.5. Across many of the other countries of Europe we see a similar pattern. With these decreasing dependency ratios, the burden on the pensions, welfare and health care systems will become substantial. This is the so-called 'demographic time-bomb'. Various solutions for reducing the possible financial deficits are technically possible - such as increasing the statutory retirement age, decreasing benefit levels or increasing taxes - but one of the least unpopular options is to keep workers at work for longer (Miles, 1997). But there are at least two other strong arguments for people working longer. First, without a rise in the usual age of retirement, many people may not be able to ensure the material quality of their 'third age'; their pensions may not prove adequate. Second, many organisations, to their surprise, are now experiencing skill shortages. Some are actively recruiting older workers to compensate for these shortages.

Any increased involvement in work for older people needs to be framed within informed and appropriate expectations. It should be productive, safe, and healthy. It should not be unpleasant, nor stressful nor have adverse implications for health in retirement. In other words, much needs to be done to protect against what has been called the 'empty prize' of longevity without quality of life (World Health Organisation, 1997).

So far, attempts to improve older workers' health have been largely focused on the individual - for example, on improving work equipment or coaching healthier lifestyles. What has been missing is a consideration of the design, organisation and management of work as potential risks to health. And this area, of course, represents the heart of occupational health psychology. Of course, it is widely recognised that work can be a source of great satisfaction. It can provide purpose, meaning and challenge. It can be a vehicle for learning, creativity and growth. It can provide opportunities to use skills, to demonstrate expertise, to exert control and to achieve success (Csikszentmihalyi, 1997). Many people currently report that work plays a significant part in their lives, providing psychological as well as material benefits, and that they would continue to work even if not financially obliged to do so. Equally we know that work can be a source of misery and ill-health. And among the major contemporary challenges to work-related health (Jones et al, 1998) are those associated with the way work and work organisations are designed and managed (Griffiths, 1998). It is likely that to ensure the quality of working life and to protect the health of working people as they grow older, close attention needs to be paid to these issues.

In order to design work and work organisations better for the older worker, there are several important questions that need to be addressed. For example, what do we know about the performance and health of workers as they age? Can we design and manage work for older workers in a way that does not challenge their psychological and physical health? Do we understand what aspects of work are experienced positively or negatively by older workers? And are these different from those experienced by younger workers? Equally we need to know whether managers have an informed understanding of older workers' needs and abilities. Are older workers subject to discrimination? And how can work be designed to be more appealing to older workers and persuade them to remain in, or return to, work?
Finally, we should ask how might employers take advantages of older workers' strengths without disadvantaging them in terms of their weaknesses?

**Age and work performance**

What do we know about the relationship between work performance and age? Most reviews and meta-analyses in the scientific literature report little consistent relationship between ageing and work performance (McEvoy & Cascio, 1989; Rhodes, 1983; Salthouse & Maurer, 1996; Waldman & Avolio, 1986; Warr, 1994). In other words, overall, apart from in certain very specific jobs, older workers perform as well as younger workers. The evidence also suggests that older workers demonstrate less turnover, fewer accidents and more positive work values than younger workers. There are many methodological challenges in this type of research. For example, the interpretation of performance measures is not straightforward. Research has identified increases in performance with age when using objective measures, but decreases when using supervisor ratings. It has been suggested that the reason for this discrepancy in scores is because supervisors' reports reflect a general bias against older workers. Research has shown that discrimination against older workers is common throughout Europe (Walker, 1993). Much of this discrimination results from ignorance about older workers' potential. Supervisors' attitudes in particular have been identified as a crucial element in maintaining the working ability of older workers (Ilmarinen, 1995). Even enlightened human resource policies can be stifled by stereotypical attitudes and discriminatory actions of supervisors and managers.

Interestingly, despite an overall failure to find age-related declines in work performance in 'real world' research, population or laboratory-based studies do reveal age-related declines in cognitive abilities. Working memory capacity and information processing speed in particular, seem to decline with age. And age-related deterioration in various physiological systems is well established. So, given this evidence for deteriorating cognitive and physiological systems, how is it that older workers still manage to function well at work? And when they do not, why not?

Recent models of ageing and work propose that various mediating factors should be acknowledged, such knowledge, skills, training, disposition, motivation, organisational systems and work equipment). In these models, chronological age should be viewed as a dimension along which these factors may exert their influence, rather than a sole and inevitable influence in itself (Salthouse & Maurer, 1996). For example, examining the role of experience and job knowledge, two of the advantages that only age can endow, can prove interesting. It may be that despite decreases in certain cognitive abilities, there is no apparent decrease in older workers' overall performance, because what they lack in cognitive abilities they compensate for with an increase in job knowledge, in certain skills and in various coping strategies. Research suggests that they might be much better at anticipation and use more economical search strategies than younger workers. Older workers' particular strengths may converge to provide useful strategies for solving unexpected problems - an aspect of work where young employees may have less to offer. In other words, the composition of competence may vary as a function of age.

One thing is clear, given the absence of any hard evidence of a relationship between age and work performance (except in certain well-defined jobs), organisations may have a hard time defending any discriminatory policies and practices. An increasing number of countries now legislate against age discrimination - the United States and New Zealand for example. We do not yet have such legislation in Great Britain, but are governed since 1999 by the (voluntary) Code of Practice for Age Diversity in Employment. However, the British Government has recently (October, 2000) signed the new European anti-discrimination Directive, designed to combat discrimination against people at work and in training on the grounds of age, disability, sexual orientation, religion and belief. The majority of these requirements will be implemented (transposed into the legislative system) in Britain by 2003, with the exception of those specifically regarding age and disability which will be implemented by 2006.

In summary, it seems that performance issues should not be a hindrance to the continued employment of older workers, particularly where equal access to training and professional development is provided (Griffiths, 1997). But what is the situation regarding older worker's health? Might health issues be a stumbling block?

**Age, work and health**

Using data from Great Britain as an example, government incapacity benefit figures reveal how many people of working age are unavailable for work because of ill-health. In Great Britain in 1997, for example, the two most prevalent types of illnesses were (i) first, psychological and behavioural disorders, and (ii) second, diseases of the musculoskeletal system and connective tissue (Social Security Statistics, 1997). But these figures do not tell us whether these problems are caused or made
worse by work - only that people who have recently worked suffer them and as a result are absent from work. But there are two other potential sources of useful information - surveys of work-related ill-health and data on early ill-health retirements.

A survey conducted by Britain's Health & Safety Executive suggested that an estimated 19.5 million working days were lost to work-related illness in Great Britain in 1995 (Jones et al., 1998). This represents an estimated 2 million people suffering from a work-related illness. What is of concern to those interested in older workers, was that twice as many cases of work-related psychological ill-health (stress, depression and anxiety) were found in older workers than younger workers. Very few cases of psychological ill-health were reported from the retirement age group, which might imply a reversible effect. A cohort effect is considered less likely since the same trend was observed in an earlier survey. Musculo-skeletal disorders, widely considered by researchers to be significantly associated with 'stressful' working conditions, also affected twice as many older workers than younger workers. Furthermore, twice as many older workers than younger workers attributed (unprompted) to 'stress at work' other physical conditions such as hypertension, heart disease, stroke or digestive disorders. It seems unlikely that workers may have been entirely wrong in attributing their ill-health to work because the survey also contacted people's family doctors, who agreed very strongly with their patients about the work-relatedness of their health problems.

Another source of information on the health of older workers is ill-health early retirements. Somewhat surprisingly, in Great Britain, there are no definitive, centralised records. And interpreting any trends in early ill-health retirements in relation to actual differences in the health of the working population is not straightforward. Part of any increase may be attributable to people's changing perceptions of health and part to changes in corporate objectives and pension scheme policies and practices. However, some indication of the current picture in Great Britain is revealed by a recent survey of over 50,000 employees taking retirement from a cross-section of large employers (Income Data Services, 1998). In 1997, 14% retired early on the grounds of ill-health. We cannot conclude from these data exactly what type of ill-health such early retirees are suffering from. However, data from other countries such as the Netherlands and Sweden (Goedhart, 1991; Nygård, 1992) indicate that ill-health early retirements are increasingly made on the grounds of stress or musculo-skeletal disorders.

This much seems clear - some of the largest causes of work-related ill-health in the developed world today are stress and musculo-skeletal disorders. These are both known to be strongly associated with the way work is designed, organised and managed. And it is older workers who appear to be most vulnerable. Clearly, we need to examine why the way work is designed, organised and managed in today's organisations may be less than optimal for older workers.

Age and work design, organisation and management

Research has identified which broad characteristics of work can be detrimental for most people. These largely concern workload, workspace, organisational culture, participation and control, interpersonal relationships, career development, role-related issues and the home-work interface. Although other problems could be added to this list - notably excessive working hours, lack of feedback, unsuitable or non-existent appraisal mechanisms, lack of leadership and communication of vision and strategy from senior management and inappropriate target-setting. However, most research into the relationship between work design, management and health has not explored 'age' as a variable in its own right.

Age has often been treated as a potential nuisance, has usually been partialled out statistically or simply ignored. It has therefore widely been assumed that what is bad for one age group is bad for all. Perhaps this assumption may be challenged. The picture that is available from the scientific literature concerning what is experienced positively or negatively at work may be masking important age differences.

It has commonly been assumed that older and younger workers think about their work in similar ways, and make judgements on it in much the same way. But some research suggests that there are specific characteristics of work that are regarded as particularly problematic by older workers. And these characteristics are likely to be particularly stressful for them. For example, we looked at a group of 240 skilled manual workers from an engineering firm, with an age range of 18-63, all doing the same job (Griffiths, 1999). For the younger workers, two factors appeared problematic: (i) ratings of their immediate supervisor, and (ii) items concerning the immediate planning of their daily tasks.

For older workers in this group, the picture was quite different. Their reported problems centred around 6 factors. They were: (i) items concerning communication with managers - (eg. the quality and usefulness of team briefings and various other forms of communication), (ii) work design & organisation - (eg. the extent to which work is properly planned and support from other departments, (iii) aspects of the physical work environment (eg. air quality and protection from hazards), (iv) a
factor concerning pay & facilities, (v) work equipment (eg. the availability, suitability and maintenance of tools and materials kept in the stores, and (vi) items concerning the ill effects of work on home-life.

These latter factors were complex, detailed, and reveal knowledge and experience of the organisation, its systems and its procedures and the knock-on effects on non-work aspects of their life. They contrast with the younger workers' problems that were very task-focused and immediate. Research in Austria has found that older workers experience particular problems with lack of recognition, devaluing behaviours of supervisors and colleagues, and disappointment with management - all high level contextual issues (Kloimüller, Karazman & Geissler, 1997). Such problems, as well as predicting ill-health and sickness absence, have also been found to be more powerful in the prediction of early retirement than physical problems.

The pioneering longitudinal studies conducted at the Finnish Institute of Occupational Health in Helsinki (Ilmarinen, 1999; Ilmarinen et al, 1991) have suggested that for older workers, certain aspects of work design and management are significantly associated with decreasing 'work ability' - notably role conflict, fear of making mistakes or of failure, lack of influence over one's work, lack of professional development and lack of feedback and appreciation. Once again, these are all management and organisational issues.

A future strategy for older workers

So, what does all this mean for a forward-looking strategy? First, it should be recognised that because older workers have certain known vulnerabilities, employers have an increased duty to take reasonable care for their health and safety. Article 6.2 in the European Framework Directive makes it clear that employers should adapt "the work to the individual" and that organisations should have a policy that covers the "organisation of work, working conditions, [and] social relationships". All European Union Member States are bound by this legislation. Work should be designed to suit people's abilities. This means that for older people, it should not require fast information processing, nor be very demanding on working memory nor physically taxing. Older workers will not perform well in this type work, and recognition of this may cause them stress. Much of the so-called 'inevitable' age-related deterioration may be countered by modern technology, equal access to training, age-appropriate training systems, flexible and individual work designs, support from well-informed management, and health promotion activities (Griffiths, 1997). Organisations would be well advised to capitalise on older workers' job knowledge: for example they could make more use of them as mentors. Employers could encourage horizontal as well as vertical job mobility, and to allow greater flexibility. And it has been shown that age awareness programmes are important for all sections of the workforce, but especially for supervisors and managers. Above all, because many of the origins of stress for older workers may be local and context-specific, employers need to consult their own employees. The disadvantages of relying solely on a broad, context-free definitions of what is 'good' and 'bad' are becoming clear.

There are implications for researcher, practitioners and educators (Griffiths, 2000). Researchers should place more emphasis on contextual research, engage in evaluated interventions, and establish life-span models of work and health. As practitioners, it seems that many traditionally managed organisations do not represent optimal systems for older workers and much remains to be done to encourage employers to instigate good practice. Similarly, there is much work to be done to educate and train the next generation of students, researchers, practitioners, managers and policymakers in all these issues. Perhaps organisations might take better care of their workers if they were more financially responsible for their former employees. In some European countries, recent legislative changes recognise this. But without supportive organisational cultures and management we cannot expect older workers to remain healthy, satisfied and productive at work, nor to outperform their younger colleagues. Once positive steps are taken to remove current barriers to their successful participation, we may see emerging a healthier, more satisfying and increasingly productive future for older workers. In this important endeavour, there will be a key role for occupational health psychologists.

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References


Cognitive Mapping & Emotional Experience at Work. Understanding the Cognitive Processes Behind the Emotion

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This paper is concerned with the cognitive processes through which people come to recognise stressors and how these relate to emotions at work. We begin by outlining the theoretical rationale underlying a mental models approach to emotions. We then present a study of the development of a cognitive mapping method to elicit mental models of emotional experience. The data are used inductively to develop a model of the factors that influence these mental models. The model indicates that mental models may reflect the environment, deeper beliefs and team convergence in the presence of salient events.

Introduction
Sustained efforts to improve health and safety and the overall quality of working life have increasingly incorporated psychosocial elements (c.f. Cox & Griffiths, 1996). To further this line of enquiry, we examine a range of individual, social and cultural factors involved in the cognitive appraisal of emotional experiences at work.

Why Emotions?
Emotion is an important orienting mechanism that directs fundamental cognitive processes (Alhakami & Slovic 1994). Power & Dalgleish (1997) have recently developed a cognitive model of emotion, which makes explicit the role of mental models in the production of emotional reactions to events. Power & Dalgleish suggest people hold schemas in long-term memory representing a specific emotional event or situation. Knowledge of these mental models may then give an indication of how individuals attribute their emotions to aspects of the work environment. Further, knowledge of these mental models may also enable predictions of the likely emotional response to situations or events at work. Methods that can represent such schema may be particularly important in psychosocial risk assessment, as individuals’ interpretations of distressing work events or psychosocial risks play an important role in the aetiology and reporting of stress (cf. Furnham, 1997).

Why Cognitive Mapping?
By using methods that capture the richness of experience associated with a distressing event, Lazarus (1999) argues that more sophisticated theories can be developed of the events, interpretations and behaviours that influence specific emotions. It is our contention that cognitive mapping methods, that enable individuals to define their own stressors, strains and coping responses, might help reveal individuals’ interpretations of the psychosocial work environment more completely.

Mental Model Development
There are two main sources of information that can be used to perceive the external world; one consists of available sensory input (bottom-up processing), and the other consists of relevant past knowledge and experience stored in the brain (top-down processing).

Top Down Processing
Constructive theories (top-down) such as Gregory (1980) assume that perception is active and constructed, not directly driven by stimulus input but occurs as the end-product of the interactive influences of the presented stimulus and internal hypotheses, expectations and knowledge. Top-down processing through existing schemas may be influenced by a variety of individual phenomena.

Cultural theorists such as Douglas (1986), view individuals as active organisers of their own perceptions, proposing that individuals choose what to fear, in order to support their way of life. Cosmological beliefs may therefore influence our mental models of psycho-social risk. Demographic variables such as tenure (Smallman, 1998), age (Turnage & Speilberger 1991) and gender (Parkes, 1990) may also contribute to risk perceptions. Much research in the stress field has also focused on
personality traits, physical health outcomes (c.f. Cooper & Marshall 1976) and performance (Jex, 1998) in the stress process.

**Bottom Up Processing**
Gibson (1979) proposed a 'bottom-up' theory of perception, claiming that all of the potential uses of objects are perceived directly (affordances). The size and type of the organisation in which we work may influence our mental models of psycho-social risk at work because their structural arrangements influence the events experienced at work.

**Social Processes within Teams**
As well as employees and managers enacting psychosocial risks at the level of the individual, collective behaviours may be adopted where actors share mental models (Greenwood & Hinings, 1996). Theoretical and empirical work within social theory, organisation theory and risk has all indicated that social groups share perceptions and beliefs, and these perceptions influence collective action (Dimaggio & Powell, 1983).

**Method**

**Sample**
35 participants (22 male, 13 female) from work groups in eight organisations (manufacturing, non-professional service, professional service and public service, small and large from each sector) agreed to take part in the study. The respondents had a mean age of 33.97 years and an average tenure of 5.41 years.

**Procedure**
Data were collected through individual semi-structured interviews and covered beliefs about causes of performance, well-being, health, and job conditions. These beliefs were elicited using a variant of the Visual Card Sort cognitive mapping method (c.f. Harris, Daniels & Briner 2000). The interview schedule accessed beliefs on the main features and processes by which psychosocial hazards are perceived as harmful or beneficial to health, performance and well-being.

Because the mapping method elicited maps unique to each individual respondent, it was necessary to code the map data. Following a review of the stress and emotion literature a coding protocol was developed. This protocol was refined through several iterations of data coding. The final protocol and examples for each category are shown in table 1. The data coded with the protocol had acceptable inter-rater reliability (Harris, Daniels & Briner 2000).

Table 1: Coding Protocol

<table>
<thead>
<tr>
<th>Category</th>
<th>Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotions</td>
<td>E.g. High negative Affect, low Positive Affect, High Positive Affect</td>
</tr>
<tr>
<td>Primary Job Conditions</td>
<td>E.g. Variety, Clarity, Demand, Skill, Control, Career, Security, Physical Conditions, Reward, support, Intrinsic to Self, Extrinsic</td>
</tr>
<tr>
<td>Secondary Job Conditions</td>
<td>E.g. Organisation Processes, Intrinsic to Job, Relationships, Role, Career, home / work interface, Intrinsic to Self, Extrinsic</td>
</tr>
<tr>
<td>Coping</td>
<td>E.g. Affective Approach Affective Avoidance, Cognitive Approach, Cognitive Avoidance, Behavioural Approach, Behavioural Avoidance</td>
</tr>
<tr>
<td>Managerial Support</td>
<td>E.g. Instrumental, Informational, Emotional, Appraisal</td>
</tr>
<tr>
<td>Process Change</td>
<td>E.g. Organisation Processes, Intrinsic to Job, Relationships, Role, Career, home / work interface, Intrinsic to Self, Extrinsic</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Well-being, Performance, Physical Health (major/ minor), Spillover</td>
</tr>
</tbody>
</table>

**Additional Data Collection**
Cosmological beliefs (Douglas, 1986) were assessed by asking respondents to rank four statements representing their attitudes toward risk. Individualist, hierarchist, egalitarian and fatalist attitudes were
assessed. Demographics such as tenure, gender, and age were also assessed during the interview. Perceived health status was assessed through eleven open-ended questions regarding health. Performance was assessed by asking respondents to think about the average worker in the team and rate current performance, attendance and time keeping in addition to two questions regarding organizational citizenship behaviour.

Results & Discussion

Because of the detailed qualitative nature of the analysis only the main findings are reported here.

Top down processes

Earlier, we outlined several variables that might influence psychosocial risk perception through existing mental models. Table 2 shows percentage of each cosmological group by primary job conditions, secondary job conditions and managerial support.

Table 2 Percentage of each cosmological group by primary job condition, secondary job condition & managerial coping.

<table>
<thead>
<tr>
<th></th>
<th>Egalitarian</th>
<th>Hierarchist</th>
<th>Individualist</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary Job Condition</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of Clarity</td>
<td>28%</td>
<td>50%</td>
<td>28%</td>
</tr>
<tr>
<td>Self</td>
<td>0%</td>
<td>23%</td>
<td>43%</td>
</tr>
<tr>
<td>High Demand</td>
<td>42%</td>
<td>46%</td>
<td>28%</td>
</tr>
<tr>
<td><strong>Secondary Job Condition</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self</td>
<td>21%</td>
<td>46%</td>
<td>72%</td>
</tr>
<tr>
<td>Organisation</td>
<td>78%</td>
<td>53%</td>
<td>42%</td>
</tr>
<tr>
<td>Role</td>
<td>7%</td>
<td>23%</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Managerial Support</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instrumental</td>
<td>28%</td>
<td>84%</td>
<td>70%</td>
</tr>
<tr>
<td>Informational</td>
<td>35%</td>
<td>7%</td>
<td>0</td>
</tr>
<tr>
<td>Emotional</td>
<td>28%</td>
<td>31%</td>
<td>14%</td>
</tr>
<tr>
<td>Appraisal</td>
<td>14%</td>
<td>14%</td>
<td>29%</td>
</tr>
</tbody>
</table>

High demand, low clarity and low support were the most elicited job conditions that caused emotional experiences at work. Those with a hierarchical orientation were slightly more likely to attribute lack of clarity to emotional experiences at work. Individualists were slightly more likely to attribute themselves to their emotional experiences. Egalitarians were more likely to notice a range of hazards in the work place consistent with the belief that they distrust the organisation and no level of risk is acceptable.

Individualists were more likely to attribute the primary job conditions to themselves. Egalitarians blamed the organisation, which is consistent with their distrust of the organisation. Hierarchists blamed the organisation and themselves but also mentioned more role factors than the other cosmological groups. Hierarchists trust the organisation and expect that they will be protected through the hierarchy from any risk.

Hierarchists were more likely to mention instrumental managerial support. Egalitarians were slightly more likely to favour informational support from the manager. Individualists in addition to favouring instrumental support also favoured appraisal support more then the other cosmological groups.

Table 3 shows the percentage of demographic group by emotion, positive/negative job conditions and individual coping. People with low tenure were less likely to mention negative emotions at work especially high negative affect and more likely to mention positive emotions that the group with highest tenure. The older age group mentioned more affective coping than the other groups. Females mentioned more negative job characteristics than males.
### Table 3  Percentage of demographic group by emotion, positive / negative job condition and individual coping.

<table>
<thead>
<tr>
<th>Tenure Group</th>
<th>Gender Group</th>
<th>Age Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>Medium</td>
</tr>
<tr>
<td>Emotion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Positive</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Low Positive</td>
<td>50%</td>
<td>25%</td>
</tr>
<tr>
<td>High Negative</td>
<td>0%</td>
<td>25%</td>
</tr>
<tr>
<td>Primary Job Condition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive JC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative JC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coping</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affective Avoidance</td>
<td>5%</td>
<td>0</td>
</tr>
<tr>
<td>Affective Approach</td>
<td>5%</td>
<td>0</td>
</tr>
<tr>
<td>Cognitive Avoidance</td>
<td>28%</td>
<td>0</td>
</tr>
<tr>
<td>Cognitive Approach</td>
<td>28%</td>
<td>57%</td>
</tr>
<tr>
<td>Behavioural Avoidance</td>
<td>11%</td>
<td>14%</td>
</tr>
<tr>
<td>Behavioural Approach</td>
<td>88%</td>
<td>57%</td>
</tr>
</tbody>
</table>

Table 4: shows percentage of self rated of mental health & performance group by process change and managerial support. People who rated their mental health as better were more likely to utilise relationships as a means of coping at work. People who rated their performance as better were more likely to hold mental models in which emotional experience at work was associated with appraisal support.

<table>
<thead>
<tr>
<th>Mental Health</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process Change</td>
<td></td>
</tr>
<tr>
<td>Self</td>
<td>0%</td>
</tr>
<tr>
<td>Organisation</td>
<td>50%</td>
</tr>
<tr>
<td>Job</td>
<td>0%</td>
</tr>
<tr>
<td>Role</td>
<td>50%</td>
</tr>
<tr>
<td>Relationships</td>
<td>0%</td>
</tr>
<tr>
<td>Career</td>
<td>50%</td>
</tr>
<tr>
<td>Home/Work</td>
<td>0%</td>
</tr>
<tr>
<td>Economic</td>
<td>0%</td>
</tr>
<tr>
<td>Managerial Support</td>
<td></td>
</tr>
<tr>
<td>Information</td>
<td>0%</td>
</tr>
<tr>
<td>Instrumental</td>
<td>100%</td>
</tr>
<tr>
<td>Emotional</td>
<td>0%</td>
</tr>
<tr>
<td>Appraisal</td>
<td>0%</td>
</tr>
</tbody>
</table>

**Bottom up processes.**

Table 5: shows percentage of large and small organisation by secondary job condition, process change, managerial coping and outcomes. The respondents from the larger organisations were more likely to attribute organizational factors to the primary job characteristics and favour organisational process change, informational support and associate spillover with emotional experiences at work. Respondents from the small organisations favoured instrumental support.
Table 5: Percentage of large and small organisation by secondary job condition, process change, managerial coping and outcomes.

<table>
<thead>
<tr>
<th>Secondary Job Condition</th>
<th>Small</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self</td>
<td>53%</td>
<td>27%</td>
</tr>
<tr>
<td>Organisation</td>
<td>47%</td>
<td>83%</td>
</tr>
<tr>
<td>Job</td>
<td>29%</td>
<td>39%</td>
</tr>
<tr>
<td>Role</td>
<td>23%</td>
<td>5%</td>
</tr>
<tr>
<td>Relationships</td>
<td>53%</td>
<td>56%</td>
</tr>
<tr>
<td>Career</td>
<td>0%</td>
<td>5%</td>
</tr>
<tr>
<td>Home/Work</td>
<td>0%</td>
<td>5%</td>
</tr>
<tr>
<td>Economic</td>
<td>23%</td>
<td>22%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Process Change</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Self</td>
<td>0%</td>
<td>5%</td>
</tr>
<tr>
<td>Organisation</td>
<td>23%</td>
<td>67%</td>
</tr>
<tr>
<td>Job</td>
<td>18%</td>
<td>16%</td>
</tr>
<tr>
<td>Role</td>
<td>0%</td>
<td>5%</td>
</tr>
<tr>
<td>Relationships</td>
<td>18%</td>
<td>5%</td>
</tr>
<tr>
<td>Career</td>
<td>0%</td>
<td>11%</td>
</tr>
<tr>
<td>Home/Work</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Economic</td>
<td>18%</td>
<td>0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Managerial Support</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Information</td>
<td>5%</td>
<td>27%</td>
</tr>
<tr>
<td>Instrumental</td>
<td>76%</td>
<td>50%</td>
</tr>
<tr>
<td>Emotional</td>
<td>23%</td>
<td>27%</td>
</tr>
<tr>
<td>Appraisal</td>
<td>23%</td>
<td>11%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outcomes</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Well-Being -</td>
<td>65%</td>
<td>72%</td>
</tr>
<tr>
<td>Well-being +</td>
<td>29%</td>
<td>53%</td>
</tr>
<tr>
<td>Performance -</td>
<td>29%</td>
<td>61%</td>
</tr>
<tr>
<td>Performance +</td>
<td>17%</td>
<td>39%</td>
</tr>
<tr>
<td>Physical minor-</td>
<td>41%</td>
<td>38%</td>
</tr>
<tr>
<td>Physical major-</td>
<td>29%</td>
<td>38%</td>
</tr>
<tr>
<td>Physical minor +</td>
<td>5%</td>
<td>0%</td>
</tr>
<tr>
<td>Physical major +</td>
<td>0%</td>
<td>22%</td>
</tr>
<tr>
<td>Spillover</td>
<td>17%</td>
<td>44%</td>
</tr>
</tbody>
</table>

Table 6: shows percentage of organisational type by primary job condition, and work process change. Respondents from the public sector were more likely to associate poor clarity with emotional experiences at work. The public and professional were the only sectors to associate change in the job with emotional experience at work.

Social processes.
Team convergence may have occurred on basis of salience of event rather than on the basis of cosmology. The large service organisation had 100% convergence on the basis of organisational processes, behavioural approach coping, organisational process changes and poor performance. The large professional organisation had 100% convergence on poor well-being. The small public organisation had 100% convergence on the basis of lack of clarity, behavioural approach, instrumental
support and poor well-being. The small professional organisation had 100% convergence on good performance.

Table 6  Percentage of organizational type by primary job conditions and work process change.

<table>
<thead>
<tr>
<th>Primary Job Condition</th>
<th>Service</th>
<th>Public</th>
<th>Professional</th>
<th>Manufacturing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of Control</td>
<td>12%</td>
<td>0%</td>
<td>0%</td>
<td>12%</td>
</tr>
<tr>
<td>Lack of Skill</td>
<td>12%</td>
<td>0%</td>
<td>12%</td>
<td>0%</td>
</tr>
<tr>
<td>High Demand</td>
<td>75%</td>
<td>62.5%</td>
<td>38%</td>
<td>12%</td>
</tr>
<tr>
<td>Lack of Variety</td>
<td>25%</td>
<td>0%</td>
<td>0%</td>
<td>12%</td>
</tr>
<tr>
<td>Lack of Support</td>
<td>38%</td>
<td>38%</td>
<td>12%</td>
<td>12%</td>
</tr>
<tr>
<td>Lack of Reward</td>
<td>12%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Lack of Security</td>
<td>0%</td>
<td>0%</td>
<td>12%</td>
<td>25%</td>
</tr>
<tr>
<td>Lack of Career</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>12%</td>
</tr>
<tr>
<td>Poor Physical</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Lack of Clarity</td>
<td>25%</td>
<td>88%</td>
<td>12%</td>
<td>38%</td>
</tr>
<tr>
<td>Self (-)</td>
<td>0%</td>
<td>25%</td>
<td>25%</td>
<td>25%</td>
</tr>
<tr>
<td>Extrinsic (-)</td>
<td>12%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Process Change</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>12%</td>
</tr>
<tr>
<td>Organisation</td>
<td>63%</td>
<td>50%</td>
<td>38%</td>
<td>38%</td>
</tr>
<tr>
<td>Job</td>
<td>0%</td>
<td>40%</td>
<td>40%</td>
<td>0%</td>
</tr>
<tr>
<td>Role</td>
<td>12%</td>
<td>0%</td>
<td>12%</td>
<td>0%</td>
</tr>
<tr>
<td>Relationships</td>
<td>0%</td>
<td>12%</td>
<td>12%</td>
<td>12%</td>
</tr>
<tr>
<td>Career</td>
<td>12%</td>
<td>0%</td>
<td>0%</td>
<td>12%</td>
</tr>
<tr>
<td>Home/Work</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Economic</td>
<td>0%</td>
<td>12%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Conclusion

Figure 1 shows 3 meta analytic causal processes involved in perceptions psycho-social risk at work; top down, bottom up and social context as noted in the introduction and uncovered in the findings here.

**Bottom Up**

The distinction between top down schema driven and bottom up environment driven influences on perceptions of psycho-social risk have important implications for work place interventions. If as the model indicates top down processes encapsulated in our mental models are found to be important predictors of psychosocial risk perceptions, changing daily transactions and the work processes may have little influence on our enactment of risk. Risk communication and messages targeted at the belief system may be more important.

If as the model indicates bottom up processes such as organisational size and type are important contributors to psycho-social risk, interventions aimed at altering the work environment may be more successful. Because bottom up processes exist in the work environment rather than belonging to subjective attitudes and beliefs, it may be possible to reduce or eliminate hazards from the work place. If some aspects of the work environment cannot be altered it may be possible to select people on the basis of resilience to the stressor.

From the team analysis it would appear that there is a social element to psycho-social risk perception, although it is bounded by bottom up processes. Salient events appear to trigger similar risk perceptions within teams. The extent to which risk perceptions are associated with harm may depend on the extent to which the salient event prevents goal achievement. Within teams, goals may become shared through discussion and salient events may trigger similar risk perceptions because people share common goals.
Figure 1
Top Down
The research indicates that people represent mentally the social world 'out there', but that individual differences and social cues may determine whether or not an event is made salient and perceived as risky. Mental models may then also reflect reality and deeper beliefs. Gibson suggested that 'It is a mistake to separate the cultural environment from the natural environment, as if there were a world of mental products distinct from the world of material products.' (Gibson, 1979, p30.) We cannot deny that cognitive processes do contribute to our understanding of the social world and our perceptions of it.

References
A Prospective Study on Work-Related Violence in Maximum Security Prisons

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(3) Department of Occupational and Environmental Medicine, Odense University Hospital, Denmark

The project is a prospective case-control and a follow-up study of threats and violence against employees in three Danish maximum security prisons. The main purpose of the project is to describe the extent and forms of threats and violence against prison staff, and to investigate the risk factors and the consequences of work-related violence for the staff. The study also includes a physiological investigation of biomarkers in blood and sputum samples. The preliminary study includes an examination of disciplinary reports from the three prisons in 1999, which have shown a variety of different daily situations that can precede work-related violence.

Introduction

In Denmark, the risk of violence or threats of violence in the workplace is greatest when one works with clients, patients, inmates, customers etc. (Danske lonmodtageres Arbejdsmiljo og Helbred 1990-95). Research carried out at the National Institute of Occupational Health in Denmark in 1997 showed that 3% of all employees had been exposed to violence and 5.5% had experienced threats of violence at work in the past 12 months. In the following, the term violence will pertain to both threats of violence and actual physical assault unless otherwise specified (Hogh 2000).

Violence is often experienced in institutions where staff is required to treat, correct, control or otherwise restrict certain behaviours, sometimes using force, against the people they interact with and/or have responsibility for (Arnetz, Arnetz & Soderman 1998; Blavig 1998; Barling 1996; Chappell & Di Martino 1997; Salminen 1997). People who work in these types of jobs are 25% to 50% more likely to experience work-related violence (Hogh 2000). People working in prisons are particularly likely to be exposed to work-related violence (Safran & Tartaglini 1998).

Violence has short and long-term effects on psychological and physiological health. Violent incidents can result in physical and psychological stress reactions. Symptoms, which can become chronic, include sleep disturbances, nightmares, impaired memory, difficulties in concentrating, avoidance behaviour and increased anxiety and eventually post traumatic stress disorder (PTSD). This often leads to an increase in sickness absence, which exceeds the day of the incident, and to increased labour turnover (Ryan 1989; Wykes & Whittington 1998).

The effects of stress following violent incidents are mediated by physiological changes in the hypothalamic-pituitary-adrenal axis (HPA). Elevations in cortisol levels have been found to induce memory impairment (Kirschbaum, Wolf, May, Wippich, Hellhammer 1996; Newcomer, Selke, Nelson et al 1999). Furthermore it is more likely that changes, over time, in the HPA-axis will increase the risk of illness, i.e. coronary heart disease, as cortisol influences many physiological systems (Bjorntorp & Rosmond 1999; Kristenson, Orth-Gomér, Kucineskiene et al 1998). Increases in catabolic metabolism and decreases in anabolic metabolism are also implicated in increasing the risk of coronary heart disease (Bjorntorp & Rosmond 1999; Alexandersen, Haarbo, Christiansen 1996).

The understanding of situations in which violence occurs can be used to establish various intervention strategies. There is, however, scant knowledge of the extent, and different types, of violence in the workplace. This is mainly because it is difficult to measure and there is no standardised definition of violence or method of recording incidents. There is also a lack of research-based knowledge on the causes of violence and on the psychological and physical effect of violence on health. This knowledge can create the foundation on which to build preventative intervention strategies that can also be modified for use with other employees than prisons staff (Hogh 2000).

We have chosen to use the European Union’s (EU) definition of violence in the work place, as this will enable comparison of our results with results from different countries. The EU defines violence in the work place as situations where persons are abused, threatened or assaulted in circumstances related to their work, involving an explicit or implicit challenge to their safety, well being or health (Chappelle &
Martino 1997). In this study we differentiate between threats: verbal or non-verbal actions that are intended to harm one or more persons and violence: an action that intends to physically harm one or more other persons.

The aims of the study
- To describe the extent and types of threats and violence to which prison staff are exposed
- To investigate the causes of work-related threats and violence
- To investigate the consequences of work-related threats and violence in relation to the psychological and physiological health of prison staff

Violence towards prison staff

A theoretical model of causes and consequences of work-related violence has been developed for this study. The model includes the interaction of individual, situational, structural and work-environmental factors which have implications for staff exposed to violence. The above literature and the theoretical model, based on empirical and theoretical studies of the causes and consequences of violence and other traumatic incidents generally, and work-related violence more specifically (Hogh 2000), establishes the frame of reference within which the following hypotheses have been formulated.

Hypothesis 1: The organisation of work has an influence on the risk of violence:
- Good management and a sense of community reduce the risk of threats and violence in the workplace. Threats and violence reduce both the engagement of staff and reduce the desire to remain at the place of work.
- Prison officers who have inspection and control functions have an increased risk of being exposed to threats and violence.
- Prison officers, who know their inmates well, are less likely to be exposed to threats and violence.
- A lack of overview, the general deterioration of buildings, the size of units all have influence on the appearance, experience and reaction to violence.
- Prison officers who have a “manageable” amount of inmates on each shift are less likely to be exposed to threats and violence than those officers who have responsibility for differing amounts of inmates on each shift are.
- Prison staff who work in special units for sub-cultural groups of particularly violent or well-organised prisoners (i.e. Hells Angels) will be at greater risk of being exposed to violence.

Hypothesis 2: Individual factors influence the risk of violence.
- Female employees are more likely to be exposed to violence than males.
- Younger, less experienced prison officers will be at greater risk than older employees will.
- Prison officers who have previously been exposed to violence will be at greater risk of being exposed to violence than those who have not previously been exposed are.

Hypothesis 3: Violence negatively effects psychological and physical health.
- Violence increases the risk of developing physical and psychological stress and the development of PTSD and decreases psychological well being.
- Violence leads to reduced cortisol reactivity in the short term and to an increase in baseline cortisol levels.
- The long-term effects of violence lead to increased catabolic, and reduced anabolic metabolism (as measured by increased HbA1c and reduced testosterone and DHEAS) and increased prolactin and cortisol levels.

Hypothesis 4: The effects of violence can be moderated.
- Influence at work, good management and support from colleagues reduces or moderates the risk of stress and increases psychological well-being
- The sex, age and other personal characteristics of the individual will have influence upon which physiological and psychological reactions become manifest in the employee exposed to violence.
The feeling of safety that staff has, in relation to the inmate, will affect his or her psychological and physical reaction to violence, in the short and long term.

**Design and method**

The study that will be described here is a prospective study of violence towards staff in maximum-security prisons. This study will be carried out in three maximum-security prisons and will involve all prison staff who have contact with inmates.

The study consists of several phases: A preliminary study, which is now in progress, will describe the structure and organisation within the three prisons. The population will be defined by using a cross-sectional study (baseline study) of the psychosocial work environment. In the follow-up of the baseline study violent incidents will be identified, and we will investigate risk factors in the population. This will be followed by a case-control study that will examine situation-specific risk factors that lead to violence. Case and control subjects will be followed up in order to evaluate the effect that violence has on health in the short and long term.

<table>
<thead>
<tr>
<th>Preliminary study</th>
<th>Baseline in 3 prisons</th>
<th>Case and control within 2-5 days</th>
<th>Follow-up 1 after 2 months</th>
<th>Follow-up 2 after 1 year</th>
<th>Follow-up 3 after 2 years</th>
</tr>
</thead>
</table>

**Preliminary study**

The project has begun with a thorough preparation including both written and oral information to all employees. We have made observation studies of all the departments of the three prisons, and in different shifts. Our observations include the registration of the structure of the prisons, their layouts, surveillance systems, alarms, amount of staff on duty on each shift etc.

All previous cases involving violence in 1999 have been examined in order to find out what is normally perceived as threats and violence in the different prisons. Five - six group interviews in each prison have been carried out to gather data regarding the psychological work environment. A questionnaire dealing with the consequences of violence is also under construction.

**Baseline study.**

In the baseline study personal data will be collected regarding actual and previous working conditions including data concerning physical and psychological health. Here we will use standardised and validated scales from the National Institute of Occupational Health in Denmark’s psychosocial questionnaire (Høgh & Kristensen 1997), which inquires about psychological and physical health. As a further supplement questions will be included that are specific for closed prisons. There will also be questions relating to previous exposure to violence throughout the individual’s period of employment and in the past twelve months.

Blood samples will be analysed for selected biomarkers of catabolic processes (HbA1c) and anabolic processes (DHEA-S and testosterone) as well as prolactin.

**Follow-up of baseline study.**

The entire population from the baseline study will be followed and violent incidents will be registered using a system developed in the study and which is inspired by an English incident report form (Beale 1999) and the Swedish violent incident report form - VIF (Arnetz 1998). The relative meaning of the
individual factors on threats and violence will be subjected to a multivariate regression analysis and Cox’ regression analysis.

Case-Control study.
Two control subjects, from the same workplace and with the same job function, same sex and within the same 10 years age group, will be chosen for every case. If a control subject is at a later time exposed to violence, then that person will appear as both case and control subject. That is, a control subject until he or she becomes a case. At the second episode two new control subjects will be chosen for the new case.

Interviews will be carried out within two to five days after the episode, regarding the time directly preceding the violent incident and their immediate reactions to the situation. Control subjects will be interviewed regarding their activities within the days preceding the incident. Cases and controls will be asked to fill in a questionnaire regarding their reactions to the incident. They will also be required to give blood and saliva samples that will be used to identify physiological reactions to stress. The same biomarkers that were described in the baseline study will be analysed here as well as cortisol reactivity in the saliva.

Both the case and controls will be followed with a questionnaire and blood and saliva samples after 2 months, 1 year and 2 years after the incident. The questionnaire contains questions about the psychological working environment, Psychological and physiological health, post traumatic symptoms, sense of coherence, self efficacy, coping strategies and other reactions to the /those incident(s) they have been exposed to. Other factors under investigation are absenteeism, employee turnover and expulsion from the work force, and consequences for life-style, family and recreational activities.

Data Analyses:
A univariate and multivariate statistical analysis will be used. The incidence of violence, psychological reactions and physiological response variables are dependent variables and data regarding exposure attained from questionnaires are the independent variables. Physiological response variables can include HbA1c, prolactin, testosterone and DHEA-s, as well as reactivity, recovery and baseline levels of cortisol. Confounding variables such as alcohol, tobacco, and circadian variations will be controlled for at the time of data collection.

Results from the preliminary study

Risk factors leading to violence in prisons.
The following, tentative material, is based on interviews with prison staff and the examination of the disciplinary reports for 1999 in the three prisons. Data collected in the preliminary phase of the study. There were in all 186 reports involving negative confrontation between staff and inmates as well as threats of violence and assault. We have chosen to differentiate between several categories of violence and threatening behaviour: Verbal threats, threatening behaviour, assault and threats and assault occurring together.

Under the rubric of negative confrontation we include reports of inappropriate language and behaviour: the use of bad language, which includes vulgar remarks and sexual innuendo; the act or intention of going amok and destroying prison property whilst staff are present etc. Refusal to comply to the directions of officers; intervention in fighting and conflicts between prisoners, escape attempts when on leave and under transport and finally reports pertaining to threats and/or violence which involves other prisons. These were included in order to identify the sequence of events leading up to the actual threat or violent incident and to hopefully shed some light on how negative confrontations sometimes lead to violence.

Verbal threats:
These are direct or indirect verbal threats of intent to harm or kill prison staff, formulated in the past present and future tenses. Threats range from jumping on staff members, to spitting or biting (intent to transmit disease, HIV for example), to disabling, punching, kicking, disfiguring, or killing a specific prison officer or directed generally at all personnel. This category also includes direct and indirect threats containing intent of harming prison staff or their family outside working hours and in their own homes at some time in the future: “Paying a visit”. “I know where you live”. These can also be non-specific, “You never know what might happen when you’re in town at night”

Threatening behaviour:
This category includes, loud noises, shouting or banging doors for example; standing in the way or walking towards staff in a threatening manner, threats with an object, throwing, or “playing” with hard objects (i.e. snooker ball), and staring.
**Assault:**
This category includes being hit with a hard object, being struck anywhere on the body with fists, or other objects, throwing boiling water at staff, having a door closed on parts of the body.

**Threats and assault:**
Throwing hard objects whilst threatening verbally, punching and kicking whilst threatening to kill, beating a staff member with a hard object whilst threatening to knock him/her down.

**Conclusion**
In conclusion, it seems that a plethora of different daily situations can precede violence. It seems reasonable to assume that the actual causes of violence lie in the frustrations of prisoners who are forced to rely heavily on, and therefore come to make great demands on, prison officers. Furthermore, individual factors relating to both prisoners and officers and their interactions with one another undoubtedly play an important role in how risk situations evolve. In the next phase of this project we hope to shed more light on these causal factors.

**Prevention:**
The results of this study will be applied in the prevention of violence:

- The development of a standardised method of registration that can be used in prisons when the study is finished. The method can also be used, in a modified form, in other areas of work where there is risk of violence.
- The study will give knowledge of the prevalence of violence that prison officers are exposed to.
- Knowledge about situation-determined risk factors can improve the basis for the development of methods for the prevention of violence, which prison employees can use in high-risk situations. These methods can also be used in other environments where there is a high risk of violence.
- Knowledge of factors in the working environment that increase the risk of, or modify, violent incidents, can be applied for making changes in the organisation of work and contribute to the structural development of future prisons. Recommendations for changes in other high-risk areas can also be made.
- Knowledge of individual risk, and modifying factors can be used in education, thus contributing to the prevention of violent incidents and their consequences.
- Knowledge on the physiological effects of violence will give insight into the relation between being exposed to violence and the effect of violence on health.

**References**


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The scope of the project is the development of social supportive structures in a psycho-social stressful work environment. The findings of different supportive structures may be discussed within conceptual frames of “different kinds of interaction between formal and informal social structure of an organisation”, “new social deal employer/employees and human resource management”, and “creating of organisational networking and the learning organisation”. Findings in recent preliminary studies show the dilemma that an active policy from employers and the formal local organisation for occupational health and safety seem to compensate for and/or push away the informal supportive structures colleague-to-colleague. Relevant for a discussion of intervention, e.g. the development of supportive work environment structures is: How can a policy from the formal organisational system make room for the informal supportive structure. The informal system is based on a different rationale and has important functions different from the formal system. This project of ongoing research is empirically based on previous and recent findings in studies of work related violence. Methods used for the empirical studies are questionnaires to show the frequency of the phenomenon in question and individual and group interviews to create (more) data for qualitative analysis.

Classical studies of informal systems

Many studies (Lysgaard, 1960; Roethlisberger & Dickson, 1939; Schein, 1980) have focused on the development of informal social structures among the employees in a company. For example, the Hawthorne studies looked at the special relations that develop among employees when they have the same work conditions in terms of their tasks, work arrangements, histories and locations in the organisation. The Human Relation management school, which originated in these studies, emphasises that if managers neglect the employees’ social needs, conflicts and social troubles may occur in the company.

The Norwegian sociologist Sverre Lysgaard (1960) also examined informal systems of social structures, focusing on the development of “worker collectives” among subordinate employees. Socially, this informal system functions as a structure, which strengthened the employees’ standing together. Cognitively, it functions as a body of interpretation of episodes in the employee’s daily life such as work tasks and demands. The superior rationale of the worker collective is thought to protect the employees against the never-ending demands from the technical-economical system of the company.

In his studies of authoritarian regimes’ treatment of prisoners of war, the psychologist Edgar Schein (1980) looked at informal social structures. Specifically, he discusses the efforts of such regimes to make the development of an informal social system impossible in these camps and the negative psychological consequences of this for the prisoners. In later studies, Schein focuses on the psychological needs which “membership” of an informal social system will provide an individual. He also describes the conditions and arrangements that might facilitate or impede the development of informal social structures.

Lysgaard’s and Schein’s approaches both suggest that the informal social structures of an organisation relate to its rationale and objectives (e.g. high profits; constancy of production; satisfied customers; the continuing survival and growth of the organisation). The informal structures help the employees to survive this rationale in way that is as physically and psychologically healthy as possible. (See references to other classical studies of the informal systems of work-groups in Trist & Bamforth, 1951).

Work, work-groups, and informal systems.

The so-called new social deal between employers and employees concerning their mutual interests and conflicts has consequences for informal social structures. Investigations have found that employees focus more on the work itself. The potencies of professional challenges become important. The employee places more weight on ways of carrying out the task as well as possible: professional development, perception of the single task as part of a bigger unit, collaboration, and contact with colleagues (Bevort & Sundbo, 1995; Hvid, 1990). The attention of the employee is towards both the formal structures of
cooperation and the informal social structures in the workplace. It is still important for the employee that his or her individual and psychological needs are granted through “membership” of the informal social system, but the informal system is not seen as being related to the total organisation’s formal system. This may be due to cultural or political factors, which make it difficult for the employee to perceive him- or herself or the informal system as opposed to the formal system.

This might also have been the case in the Hawthorne studies. A conflict between social and economical interests was not outspoken. It would therefore be difficult to perceive the development of an informal system as an opposition to the formal system.

Based on these considerations I will discuss forms and functions of informal systems within public health and social services sector workplaces. Early studies of employer – employee relations have been conducted within industrial companies. Even in Scandinavian countries, where worker and trade union movements have strong positions in society, it was not until the 1970’s that employees within the public health and social services sector started to look at themselves as “ordinary” employees and their workplaces as “ordinary” workplaces. The interest in work rather than the total organisation, turned the attention of most of the employees to the structures of the work situation associated with the patient, resident, or client, rather than to the organisation.

In a difficult and stressful work situation (e.g. with a violent patient) it became very obvious that formal structures of collaboration given by the employer, and the informal structures of collaboration created by the employees themselves were important (Hultengren & Kofoed, 1987; Hultengren, 1993). The informal system started to function in a number of situations: when events occurred which had not been anticipated by the formal system and guidelines; when another distribution of tasks was necessary due to the personal reasons of patients or caretakers; when it was necessary to discuss episodes to understand what was going on; or when colleagues needed comfort after having been exposed to stressful experiences. The social support in difficult situations was strongly related to the informal support from colleagues in the work groups.

In some of my previous studies (Hultengren, 1993; 1997) there was a lack of knowledge of formal supportive structures for employees in stressful work-situations. In spite of an increase in effort and information concerning formal systems of occupational health and safety from the organisation, the employees continued to report that they had no knowledge of support from the formal system (Hultengren, 1997). They did, however, want to emphasise how colleagues were supporting them –i.e. the informal supportive system.

In some workplaces, those responsible for the work environment reacted to the critique of occupational health and safety and the pressure from the employee representatives by elaborating on the formal support structures in the work environment, and by stressing more precisely the necessity for those kind of activities in the workplace. In some workplaces this increased effort was met with resistance from the employees who asked “what is going on now?”, “why are they (the management) intervening?”, “we used to take care of this ourselves” (Hultengren, 1997; Hvid, 1990).

In recent studies from my ongoing project (Hvid, 1990) interviewees who are engaged in work environment activities and policy report that existing informal and “spontaneous” supportive structures for colleagues who are exposed to stressful work-situations now seem to vanish from the network of colleagues.

**Discussion**

Based on this, some interesting dilemmas or paradoxes present themselves. Those responsible for the work environment (i.e. management) have for several years been criticised for not supporting employees who have been exposed to violence as a matter of priority. The process of finding such support was left to the employees themselves.

Structures (including supportive structures) that are created and implemented by management can be nothing else but part of the formal system. Supportive structures created and handled by the employees are part of the informal system.

As long as structures implemented by management are poor, the supportive structures of the informal system are maintained. But if the employees perceive the formal supportive structures as reasonable, social functions from the informal system may be moved to the formal system. This movement may be encouraged by the fact that in the formal system you have space and time for these activities.

This replacement of social functions from one system to another takes place constantly both in society as a whole and in organisations as one of the processes for their development.

If the replacement of social functions from one system to another takes place, it must be analysed how this affects the content of the function, e.g. support to employees exposed to violence. The
informal and the formal systems may have different rationales that will affect the content of the social function.

In terms of the new social deal between employer and employees, you may find many common objectives: to do a piece of good work, to retain qualified and good employees, to maintain the workplace. However, it may very well be that these common objectives may be operationalised and interpreted in different ways by employees and employers.

For example, management’s scope for “maintaining the workplace” may include organisational development within the conceptual frame “the learning organisation” (Argyris, 1990). From here some of the supportive structures may be that employees have to discuss certain episodes systematically. The purpose is to discover patterns of the episodes and then create ideas of how to handle the violent episodes or avoid violence to occur.

For employees, the scope of “maintaining the workplace” may have a shorter perspective and may not include the issue of organisational learning. The employees’ rationale for social support to the colleague who has been exposed to violence is comfort, membership of the group of colleagues, and mutual identification. It is hard to keep the learning perspective in focus, even at the level of the group of colleagues. The continuous existence of organisation through continuous learning is not a part of the employees’ rationale for support to a colleague who has been exposed to violence (Hultengren, 1997).

At the conceptual level the different rationales also occur. To conceptualise employee relations as ‘networking’ may imply an emphasis on learning and knowledge development. A developing synergy between working and discussing may lead to new knowledge about crucial issues (to the benefit of the organisation) (Townley, 1994). Another way of conceptualising it is to look upon the relations between the employees as relations in a work group. This will emphasise employees as colleagues in the work place, and members of a group, where many functions important for the work task and the work process are considered.

The two systems have different rationales concerning employees exposed to violence. Therefore, not all functions of the informal system can be replaced by the formal system. That means that some important functions may disappear, if they are not maintained within the formal system.

The concrete problem for researchers and professionals in work environment issues is: How can an employer support the handling of important social tasks, which apparently can only take place in the informal system, without implementing structures and guidelines with a rationale from a foreign system, which either will be refused or will suppress objectives derived from other rationales.

References


A participatory intervention method is presented. In this research project the method is designed to act as an intervention strategy in the organization of shiftwork with the aim of integrating principles of prevention into the design of shift schedules. The method is described from a background in action and participation research as well as in terms of intervention studies in shiftwork. In this way the method is not new but is characterized by its role in determining the participatory conditions and in particular the mediating effects of the participatory process. Finally the method is illustrated through its application in a specific organizational context.

**Introduction**

The importance of applying a participatory approach in accomplishing changes in the work environment has often been outlined. This applies not only in terms of fulfilling employee rights but also in relation to improving working conditions and eliminating or reducing occupational risk factors and strain. In this context the participatory approach is assumed to increase the probability of a successful change or intervention.

Shiftwork is an example of a working condition that may also be an occupational hazard (Costa 1996, Wedderburn 2000). However there is a large body of knowledge about prevention possibilities through the redesign of shift systems and through altering the level of exposure. Ergonomic recommendations for the design of shiftsystems have been elaborated and the significance of applying a participatory approach has been emphasized (Wedderburn 1994, Knauth 1996).

But here research and information on conditions, stages, levels of influence, activities and dynamics of the participatory processes are scattered across the literature. These sorts of dimensions will need to be clarified and operationalized when considering the basis for applying participatory methods and in terms of understanding their effects.

This paper deals with a participatory intervention method and the model behind it. It also focuses on the operationalization of the different dimensions of the model particularly in terms of its application within a specific organizational context.

The method was designed with the aim of representing an intervention strategy in the field of organizing working time systems. Principles of prevention were incorporated into the design of shift schedules. In addition the method is particularly applicable within the existing resources and functions of the participating organization. However this does not imply that the method and its participatory dimensions cannot be used in relation to other work conditions or in connection with implementing organizational change or that the requirements for changing structures and resources will not arise as a consequence of the participatory process. The development of the method results from the integration of knowledge and experiences in action and participation research, intervention studies in working time and research in shiftwork.

In this way it cannot be said to be a genuine new method but the new dimensions that characterize this participatory method are that it is systematized and operationalized from a set of identifiable preconditions, assumptions and purposes. The design and effects of the method are thus based upon theories about the generation of mediating variables through the participatory processes and the fact that these variables will affect the character and course of the process. The influence and effects of the mediating variables will in turn depend on the type of activities in the process and the predispositions of the participants.

In the sections that follow these aspects of the method will be highlighted in relation to shiftwork interventions and participatory research. The structure and design of the model and method is followed by an example of how the method can be applied to a specific organizational context.
These findings confirm that the design of a shift schedule influences the effects of shift work, but also that intervention in shift schedules from a health perspective is a multidimensional problem, where the new schedules have to be calibrated in relation to their organizational, working and social context. Ergonomic recommendations for shift design that have been drawn up include principles such as minimizing the sequence of night shifts, adjusting the shift length to job demands, dispersing days off across the shift cycles, avoiding long blocks of consecutive shifts and keeping a regular schedule. Simultaneously it has been argued that there is no single universal solution concerning the design of shift schedules (Wedderburn 1994, Knauth 1996).

The introduction of these principles when designing shift schedules could be in conflict with the prevailing interests of the company or the employees. At the organizational level resistance may include such things as the number of employees needed, traditions, remuneration systems and production flexibility. They may also encounter resistance from employees in terms of their preventive nature. Shift workers have different attitudes concerning the advantages and disadvantages of the different systems depending on social preferences, age, family structure, financial circumstances and well-being. They might prefer a particular system for social reasons. The attitudes to changes may also be formed by issues such as confidence in the actual conditions and insecurity about dealing with new conditions.

The understanding and development of intervention methods to interact with these aspects are considered to be requisite conditions for any method aiming at implementing ergonomic recommendations to the reorganization of shiftwork arrangements. In this way the significance of applying a participatory intervention method does not only deal with issues of employees’ rights but also with the ability to overcome resistance and obstacles to changing the schedules. The active contribution of the researchers are emphasized as important for dealing with the difficult process of combining divergent interests and reaching the necessary practical compromises (Thierry and Jansen 1986). Often intervention studies in the field of shiftwork have been carried out when the shift systems had to be changed for reasons such as the introduction of newer technology, new ways of organizing production or decreased resources and not from solely health perspectives. Experiences and information on intervention strategies working with redesign based on no other requirements than reasons of prevention are faulty but are still needed.

Participatory research

Participation essentially functions as a means of involving employees in the management of establishments. It has been used to describe a broad spectrum of organizational processes such as work councils, employee management, codetermination, joint consultations, quality circles, autonomous work groups and team briefings (Marchington 1987, Strauss 1992). The involvement of the employees in managerial decisions and the opportunities for the employees to use their resources are considered to bring about improvements in both the abilities of the enterprise to adapt to new operational demands and in the quality of the employees’ working lives (Salamon 1987). As participatory practices can assume different forms, take place at different organizational levels, have different intensity, and include different issues, the application of participation as a concept can be distinguished with regard to form, extent of influence and objectives.

Participation can be introduced by collective agreements and legislation or by management itself. As part of the procedures for regulating the labour market the formal rights concerning the level of influence and objectives for participation are stated for the employees as a collective through representative participation in parity committees. In this way the representative model for employee participation serves as an instrument to secure employee rights, standardize procedures, regulate the interaction between employees and management in decision-making, and stimulate operational efficiency. The participatory systems involving the development of cooperative processes of regulation are thus different from the traditional regulation through collective bargaining. In contrast to representative participation with its formal procedures, managerial initiatives on employee participation are informal and typically introduced as direct participation aimed at enhancing the involvement of the individual employee in the management of daily work operations and working procedures which are circumscribed by managerial prerogatives. Within this framework participation is often task centred. Quality circles or autonomous work groups are a good example of this. Direct or individual participation happens mainly at
the operational level but it can also be extended to other areas such as drawing up working conditions although it is somewhat dependent on the attitudes of management.

The concept of participation that is used here is defined in the following way. “The involvement of employees and/or their representatives in areas of management decision-making that are not normally covered by collective agreements”. The application of employee participation here is thus related to both the process of taking part in the decision-making about redesigning work conditions and their involvement in the implementation process. This embraces the involvement of the individual employee through direct participation but also encompasses participation at a group level because changing work conditions such as a shiftwork schedule is not an individual but a group process a factor that needs to be taken into account by the research approach.

In research the participatory approach has been used and defined in as many different ways as has the concept of participation itself in so far as conditions, methods and aims of the participatory research process is concerned. Thus a universal unequivocal demarcation of participatory research (PR) cannot be drawn up but it can broadly be described by the fact that the participants are actively involved and have an influence on the research process and the innovative feature of the course of the process. This implies that PR differs from other research approaches in respect of the control of the research process and the interaction between participants and researchers. In practice the limits between different PR approaches will be somewhat fluid when it comes to the extent of participation, the level and issues of control, and the character of the interaction between researchers and participants. This can be carried out as a common process at all levels or as a process with the distribution of tasks, authority and responsibility based on knowledge and experiences. Similar variations can be found for the prescribed determination or changeability of the applied methods (Cornwall and Jewkes 1995).

Terms concerning decision-making authority and control, as well as the objectives of the common processes between the participants and the researchers have to be determined and it is from these determinations a particular participatory method can be identified.

The participatory intervention method (PARIM)
The presented participatory intervention method (PARIM) stems from the following determined participatory conditions. It should be emphasized, that the method has been drawn up for making intervention studies in shiftwork from the perspective of prevention based on a number of participatory research principles:

- It is participatory as the employees are involved in the different stages of the intervention process and in decision-making.
- It is cooperative as decisions concerning the progress of the process are made in common by the employees and the researchers.
- The process is innovative with an ongoing estimation and improvement of activities.
- Control of the progress is exercised as a joint process but only the employees have the decision authority on changes to the work conditions and the subsequent implementation.
- The interaction between the employees and the researchers is based on acceptance of diversities in functions and divisions of tasks according to resources, knowledge and experiences.
- The research process is separated from the course of the intervention and is only attended to by researchers.

The model below (figure 1) illustrates the integration of the determined conditions, the theory about mediating effects and the expected results of applying the method. Thus the first two columns show respectively the issues of content in participatory research and the operationalization of the content equal to the former described determined participatory conditions. The third column represents the mediating effects. They will have to be perceived as both effects of the process and as variables that are decisive to the further progress of the process and to the results of the intervention. The theory about the mediating effects indicates that the active involvement of the employees is improved, that the experiences of the employees is used as resources, that individual experiences concerning the object for the intervention and issues of working life are transformed to common experiences, and that the knowledge on health and safety of the researchers is combined with the experiences of the employees. The single mediating effect is not related to specific determined conditions but the mediating effects have to be understood as effects that results from the application of PARIM and as a consequence of the activities of the process and the interaction between the different determined conditions. Furthermore the progress of the mediating effects will depend on their internal mutual influence.
<table>
<thead>
<tr>
<th>Content</th>
<th>Operationalization</th>
<th>Mediating effects</th>
<th>Results</th>
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<tbody>
<tr>
<td>Form</td>
<td>Direct</td>
<td>uses the experiences of the employees</td>
<td>individual attitudes</td>
</tr>
<tr>
<td>influence</td>
<td>co-decision decision authority</td>
<td>transforms individual experiences to collective</td>
<td>collective relations</td>
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<td>objectives</td>
<td>the activities of the process</td>
<td>combines the knowledge of the researchers and the experiences of the employees</td>
<td>organizational improvement of work conditions</td>
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<tr>
<td>participants</td>
<td>employees researchers</td>
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<td>health and safety alteration of risk factors</td>
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<tr>
<td>relations</td>
<td>co-operative consensus division of activities</td>
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<td>process qualification</td>
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<td>Process</td>
<td>innovative</td>
<td>intensifies involvement</td>
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Figure 1. The figure illustrates the model of the participatory intervention method (PARIM)

The fourth column represents the results of the intervention process at the different levels of the organization. In order to put the results into some perspective they will be described in relation to an intervention in shift schedules corresponding to the subsequent presentation of applying PARIM as a method for intervention in the design of shift work in hospitals. The influence of the process at the individual level covers attitudes to the design of shift systems and the priority given to health and safety considerations. The relationships at the collective level comprise the interpersonal relations for the group of participants. These consist of increased knowledge about the attitudes and experienced problems of the individuals involved in the present shift system and through this an increased collective social understanding and responsibility. The improvement of work conditions includes redesign of the applied shift systems. The alteration of risk factors implies a reduction in the physiological, psychological and social consequences of shiftwork. The qualification of the process expresses that it is the participants as well as the researchers that influence the activities and course of the process. This also includes the elaboration and discussion of new criteria for the reorganization of shiftwork.

As illustrated, the operationalizations shown in the second column or the determined participatory conditions of PARIM for example the division of tasks and activities, authority of decision and the activities of the process are aimed at strengthening the development that the mediating effects have. These are to be drawn up from the organizational context of the intervention.

The application of PARIM

PARIM was in this case (an intervention around the shift systems operating in selected wards in a hospital) applied as an intervention method with no other requirements for alterations of the schedules other than prevention. What is implied here is that the application of PARIM had to take place without changes to the existing resources and functions.

The specifications of PARIM that were drawn up according to the organizational context and agreed upon by the participating wards were:
1. The progress of the implementation process was a common responsibility with obligations to the employees, work groups and the researchers
2. The employees had the decision authority concerning design of a new schedule
3. Participation in the process did not imply obligations to introduce changes to the schedules
4. The design of new schedules were required to integrate into them health considerations
5. If a new system was introduced it was required to run for a period of at least 12 months in order to carry out evaluations. After this period the employees were free to decide about the future.
6. As part of the research process an ongoing collecting of data would take place
7. A work group was established in each participating ward with representatives from ward management and the employees to oversee progress on the ward. Together with the researchers the work group constituted the project group for the ward
8. The ward selected according to their own criteria work group representatives
9. The project group was entitled to introduce activities that were considered to be of importance to the progress of the process.
10. Each ward was to decide and make up the procedures for making decisions about design and introduction of new schedules, and also about the future schedule after the testing period.

The phases and activities of the intervention process up to the decision concerning the introduction of a new shift system consisted of:
1. At meetings of the project group tasks and responsibilities between project group, work group and the researchers were determined including the general principles and themes for activities
2. The course of the intervention at ward level was started by discussions about criteria for prevention, ergonomic recommendations and design of shift plans.
3. Through questionnaires data were collected about the participants’ experiences of the shift schedules, advantages and disadvantages of the design, attitudes and wishes for new schedules.
4. Results from the analyses of the questionnaire data were discussed at the wards.
5. Discussions and elaboration of principles for designing new schedules were required.
6. Drawing up proposals for the design of new schedules and discussions of these was necessary.
7. Decisions about the design of new shift systems, their introduction and testing over a certain period required discussion.

The determination of tasks, structures and activities constrained the course of the process but not in such a way that it narrowed its innovative character and that there were no preconditions on results other than that considerations for health had to be incorporated in the redesign of schedules.

**Perspectives**

In shiftwork it is expected that an intervention method should be able to overcome obstacles and increase the likelihood of altering the schedules dependent on its ability to introduce new dynamics and influence attitudes to new designs. The active participation of the employees is considered to be a decisive factor for handling such conflicts and reach new solutions. The choice of the participatory method rested on the assumptions that the participation of the employees is decisive not only in terms of the effects on shiftwork but also for optimizing the necessary integration and operationalization of health and social issues into the design of shift schedules.

The design and application of an intervention method requires a certain type of attitude to the fundamental question of evaluation. In this case it has to be that an evaluation will have to meet the scientific criteria surrounding the design of intervention research (Goldenhar & Schulte 1994). It will also have to accept the fact that the researchers are an active part of the intervention process. In this way it is found relevant not only to follow the procedures stemming from the experimental paradigm but also to examine the interventions in terms of conceptualization, design, and implementation and explore them via the nature of the change processes (Griffiths 1999). It also need to be clarified if the applied method has to be evaluated through the effects of the process and then at different organizational levels in accordance with the described results for each level as identified in the PARIM model.

**References**


Work and Working Conditions in Industrial District Firms – Italy and Denmark Compared.

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Little is known about the organisation of work and working conditions within industrial district firms. Industrial districts are known for their special productive structure, flexibility, family involvement in firms, inter-firm relations, entrepreneurial spirit, local institutions of support, cognitive resources, values, local rules and regulations, etc. How does a structure of this kind influence the working conditions? Is there a limit to the positive effect of the industrial districts? An inverted U-curve relationship between typicality of district firms and good working conditions is hypothesised. Answers are sought through interviews and questionnaires in Danish and Italian firms.

Introduction
Despite the fact that much attention has been paid to industrial districts during the last 25-30 years, the phenomenon has not yet been studied in a global manner. Most scholars have mainly attempted to understand the underlying structure and reasons for the exceptional economic success of these districts – while at the same time neglecting the study of other important aspects.

The overall purpose of the present research project is to investigate some of these neglected aspects, i.e. the actual organisation of work, working conditions and industrial relations in industrial district firms. In this project it is assumed that the defining characteristics of the industrial districts have an impact upon these aspects. The aim is not to establish whether a 'high' or 'low' road towards economic success has been taken, but instead to evaluate and explore the actual working conditions within the special organisational framework offered by industrial districts.

Research Questions and Hypotheses
Part of the underlying questions guiding the form and development of the project can be formulated as follows: Are there particular industrial district types of working conditions? Which are eventually the characteristics of these types? Is the impact of the industrial districts' defining characteristics of a positive or negative nature? Is there a limit to the alleged positive effect of the industrial districts? Are the employees basically paying the price of the economic success? And if yes, why are these conditions and their consequences accepted by employees?

The central hypothesis suggests that the relationship between the ideal typicality of the industrial district firms (ITID) (see below) and the level of 'goodness' of working conditions takes the form of an inverted U-curve. This entails that the typical characteristics of industrial district firms initially correlate with an increased probability of good working conditions. However, after having reached a certain point (indicating the limit of the positive effect of industrial districts), this positive relationship is expected to invert and change direction. The characteristics that previously co-existed with good conditions of work become so pronounced that their value inverts, and what previously constituted an advantage becomes a disadvantage.

In specifying the concept of working conditions (see further below), two sub-concepts can be identified: subjective conditions (e.g. social relations, general well-being at work, motivation and satisfaction, participation and autonomy, etc.) and objective conditions (e.g. security in work, amount and pace of work, physical conditions, pay-level, working hours, etc.). Thus, the hypothesis could be expressed in an alternative form: The relationship between ITID of the firms and the working conditions has two distinct shapes reflecting these sub-concepts. It could be sustained that the relationships between, on the one hand good, subjective conditions and ITID and, on the other good, objective conditions and ITID give rise to two different linear relations, the first being a direct proportional relation and the second an inverse proportional one. This proposes the conclusion that the more the industrial district firm is ideal typical, the better the subjective conditions and the worse the objective ones.

Typicality of Industrial Districts and their Firms
Becattini's (Becattini, 1989) definition of industrial districts will constitute my point of departure in an attempt to identify what constitutes and characterises districts and district firms (p. 125, my translation): 'the Marshallian industrial district is constructed by a population of independent small and medium sized
firms that fundamentally coincides with the single production phases, leaning upon a myriad of supply units of production services, home workers and part-time workers, oriented towards an open group of pure entrepreneurs through the market of orders.’

Given the complexity of the industrial districts, several elements are important in forming a precise definition of the phenomenon. I have identified 7 elements, which will be used to measure the ITID level of the firms included in the research. These elements are the following: 1) flexibility, 2) social mobility and entrepreneurial spirit, 3) cognitive resources, 4) institutions, 5) values, cultural aspects, rules and regulations, 6) productive structure, and 7) inter-firm relations. These elements are themselves inclusive concepts and correspond to a complex reality; hence only a simplified description of each is included.

The core-defining element is the concept of flexibility. The flexibility present within industrial districts can be divided into three parts: Internal flexibility, external flexibility and global flexibility.

F. Atkinson (Legge, 1995) divides the concept of internal flexibility into four parts: Functional flexibility, numerical flexibility, time-related flexibility, and financial flexibility. The internal flexibility in industrial districts can accordingly be observed in e.g. flexible allocation of tasks to employees, changes in number of employees according to changing needs of the firms, flexible working hours and schedule, alternating periods of high-low profit, etc.

External flexibility refers to that form of flexibility related to the external relations of the firm, e.g. towards customers and subcontractors. In practice this flexibility might encompass matters such as: delivery time, quantity of products, new product types, etc.

The term global flexibility indicates an overall form of change or, more precisely, the ability to adapt to external pressures and changes. Global flexibility is represented in terms of social change, changes in the physiognomy and composition of the districts themselves, etc. This particular form of flexibility is very important in understanding the nature of industrial districts. Becattini (Becattini, 1989) actually points out this aspect as central to the identity of districts: ‘Paradoxically, the greater the ability of the district to renew itself, to graft new sectors on to old, to develop its original industry in ever more specialized ways … the more it retains its identity as an industrial district.’ (p. 132).

The second defining measure is the level of social mobility and entrepreneurial spirit within districts. An industrial district is typically an area where the art of entrepreneurship is a generally respected and diffused value. This is reflected in the large number of firms actually present within the district, as well as in the high propensity to start new firms. The social mobility refers to the fluidity with which individuals during their working lives move back and forth between the role of employer and employee. This movement is obviously facilitated by the social relations present within the districts, e.g. by employers helping employees starting a firm of their own, or ex-employees actually working for former employees, etc.

The third element consists in the cognitive resources of the districts. Becattini & Rullani (Becattini & Rullani, 1993) describe two types of cognitive resources present within the district firms: contextual/tacit knowledge and codified/explicit knowledge. These two forms of knowledge are important in understanding the functioning as well as the future of districts. It is through their integration that the local system (bound to the contextual/tacit knowledge) can relate to external changes and the concept of globalisation (bound to the codified/explicit knowledge). ‘… every local system is modified in time, as if it tried to identify combinations of contextual knowledge and codified knowledge, of organisational formulas and socio-cultural assets, such as to permit them to remain within the market and to reproduce itself.’ (Op.cit. p. 43, authors' Italics). The two knowledge-forms also reflect the two parallel ‘educational' systems within the districts. One is the system of formal formation of skills and technical knowledge (codified). The other ‘educational' system is an informal passing on of knowledge as a kind of cultural inheritance, apprehended by the young members of the system (tacit). This handing down of knowledge and know-how is one of the precious assets of the districts, representing a competitive advantage compared to other forms of organisation.

This leads to the fourth of the defining elements: the institutions. Trigilia (Trigilia, 1998) emphasises especially three institutional factors constituting the districts' normative sphere. These three factors are: 1) A strong craft-tradition supporting the survival and development of a generalised know-how and spirit of entrepreneurship within these particular areas; 2) the family as a platform for the development of flexibility, motivation, lowered production costs, etc.; 3) the local political traditions and institutions. Becattini (Becattini, 1997) identifies this normative sphere as that element which links aspects of production to the community of the district.

The fifth defining element consists of several interrelated aspects: values, cultural aspects, trust, rules and regulations of relations within the district. Referring to the latter, the regulation of matters within districts is dominated by two parallel sets of rules: The rules set by state regulation and the rules set by the community. Founded upon local customs, shared history and identity, the community rules are
supported by a series of sanctions, more or less damaging for the 'offenders'. The most evident sanction is exclusion from the community and thereby from work and trade. Bad reputation is an indirect sanction that is attributed anyone who does not respect the 'common community way of doing business'. These rules reflect a high level of social control, dramatically reducing specification and transaction costs. Firms tend to draw up contracts loosely on the spot, supported by the general co-operative spirit of the district and in the ultimate instance on the community sanctions.

Values, cultural aspects and trust serve as a form of glue within the industrial districts. The institutional system of the districts (e.g. the family, the craft tradition, local political traditions, etc.) creates a platform for the development and consolidation of values which are crucial in the determination of the behaviour of district actors. The family, the familial relationships between actors within the area, the common background and history, the social inheritance in the form of perceptions and a shared body of knowledge create a sense of belonging and identity.

The sixth element is the productive structure of the industrial districts. This productive structure consists of a small number of firms with access to final markets (to customer firms buying finished products) and a much larger number of sub-contracting firms working, in a long chain of separate production phases, almost exclusively with the internal markets of the districts.

The productive structure leads to the final defining element: the nature of the interfirm relations within districts. The different types of firms present within the districts create network relations among themselves of both a co-operative and a competitive nature. Competition is found within the markets of a district, i.e. between subcontractors of the same type. Generally, the main competitive elements are flexibility, specialisation and adjustment to external conditions.

However, the existence of competition does not exclude co-operative relations to be present within districts too. Brusco (Brusco, 1992) proposes a model of four different forms of district co-operation: 1) co-operation between pairs of firms supporting each other in difficult times (lending tools, raw materials, helping finish big orders, etc.), 2) co-operation between customer firms and subcontracting firms (continuous consultation and interchange of information and observations in order to develop and improve the quality of the product); 3) co-operation between a firm and consortia or associations (e.g. purchasing consortia, credit consortia or trade organisations); 4) co-operation within associations of firms aiming at the implementation of new technology, reaching new markets, etc. Generally, these relations are all characterised by being long-term.

Conclusively, the definition of a district firm as more or less ideal typical depends on how many and to which degree it can be said to possess these above-mentioned characteristics, i.e. a combined quantitative and qualitative evaluation. The empirical referent of a highly typical district-firm would naturally be the one corresponding to the highest number of indicators in the strongest way.

**Working Conditions**

In this context, a fruitful socio-psychological perspective on work is represented by the research of R.S. Lazarus on the nature of stress. This research is herein used as a framework for understanding the complex nature of the concept of working conditions. Lazarus (Lazarus & Launier, 1978) defines the concept of stress as a result of the transaction between the individual and the environment, i.e. not as a property of the one or the other but as an aspect which develops as they relate. This concept of transaction is based on a distinction made by L. A. Pervin (Pervin & Lewis, 1978) between different forms of interaction, among which it is the interdependent interaction/reciprocal transaction, which corresponds to the concept of transaction applied in this context. The transaction refers to a situation in which the effect/result of the interdependent interaction between variables can be comprehended exclusively in virtue of their relation. Given the fact that neither of the variables (individual or environment) exists in isolation, the results depend exclusively on their continuous relation.

Applying the transactional perspective to the concept of working conditions means viewing the working conditions as a result of an interplay between the single employee and the surrounding environment. Both the subjective and objective conditions are outcomes of this interplay. For instance, the physical aspects of the objective conditions are made up not exclusively of the environmental and objectively measurable aspects, but certainly also of the individual evaluation and considerations thereof. Therefore in assessing and evaluating the working conditions (both subjective and objective), it is necessary to take both sides as well as their transactional relationship into account.

**Working Conditions and ITID**

An example of the defining elements' impact at intra-firm level can be observed in regard to the concept of flexibility. In the specific case of the textile and clothing district of Prato (Italy) the sub-contracting relations are characterised by a very high level of flexibility. Given the fast changes in fashion and the
fact that production is exclusively order-based, the amount of work is very unequally distributed throughout the year. Sub-contractors find themselves in a highly insecure situation, with too much work during a few months and too little for the remainder of the year. In order to cope with this situation a high level of flexibility at intra-firm level is required. Combined with a co-operative and locally based industrial relations model that does not provide a direct negotiation of the flexibility of work, this situation has several implications for the working conditions. In many situations, the employees feel forced into accepting a regulation of working hours, vacations, etc. which is dictated mainly by the needs of the firm.

Another example of the ITID impact at intra-firm level is the role played by the family. A large number of district firms are family firms – either with family members as owners, with family members being in an employer-employee relation, or simply having family as extra help in situations of need. The involvement of family influences a firm in significant ways and has importance for non-family employees as well as for the family members themselves. The most frequent issue emerging from my research so far is the problem non-family employees encounter when family members receive special treatment: leaving early, doing the most interesting tasks, etc. However, the opposite tendency also seems to exist: family members being inadequately paid, working longer hours, etc.

These are simply a few examples of plausible implications for working conditions that the identifying elements of industrial districts might have. Many others might be imagined; however, further elaboration awaits the empirical results of the project.

Research Design
A comparative research design has been chosen for the project. Two similar districts (in product, productive structure, and development) are compared: Herning-Ikast in Denmark and Prato in Italy. A sample of firms has been randomly selected in both countries. The included firms represent the actual population of firms in the specific areas of study. A number of 55 firms (25 in Denmark and 30 in Italy) are studied.

Moreover, 10 control firms from each country will be included; all of which are located outside industrial districts. The reason for this choice is based upon the logic of control. Research control is used to transform potential causes of condition into parameters of constants, thereby isolating the remaining potential causes to be analysed. In fact, the resemblance between the two districts in question represents several constants, which are assumed to have no causal significance for any of the potential differences found between the districts, i.e. they function as elements of control in the research design. One of these similarities is the type of product, i.e. textile and clothing, which being similar for both districts ceases to constitute a role of potential cause. Hence, the homogeneity of the districts allows for an analysis of the potential sources of variance. The reference to cause in this context does not imply any causal claims regarding the project's empirical results, in relation to which only assumptions of covariance and correlation are made.

One fundamental difference between the two districts is the nature and history of the industrial relations. The Danish system in general has been characterised by a strong, centralised national pattern of collective regulation and a very high degree of unionisation (almost a fully unionised economy). The Italian industrial relations are more decentralised, regionally rather than nationally organised, and traditionally characterised by a low(er) membership rate. Despite recent tendencies towards convergence between the two models, these differences allow for a study of the unions' role in the formation of working conditions at intra-firm level.

Future and General Implications
As mentioned, the economic success of industrial districts has been an incentive for scholars to investigate and study this particular organisational mode. Some have even attempted 'export' the district-model.

The answers to the questions posed in this research-project have several implications for these above-mentioned studies, as well as for the many subsidies recently offered by the European Union to experimentally implement the industrial district model in developing regions and countries. If results generally show that working conditions are bad within the industrial districts, the risk of 'exporting' the model would be that of diffusing an economic success, but a human failure. The problem regarding subsidies would have to be re-addressed; evaluating whether money aimed at helping industrially underdeveloped areas should be spent worsening the human conditions of these areas' inhabitants.
References
Consequences of a Development Programme on Job and Organization Characteristics, Well-being and Productivity in Small and Medium-sized Enterprises

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The study focussed on changes in job and organizational characteristics and well-being during 1996-98 among 4068 employees from about 200 small and medium-sized enterprises in southern Finland. These enterprises participated in an development programme to promote employee well-being and the quality of their working conditions. Participation in organizational interventions was found to be positively related to better perceived continuous improvement practices, appreciation and information about changes at the end of the intervention. Job satisfaction and organizational health, indicating that the same job and organizational characteristics contribute to individual well-being and company effectiveness.

Introduction

Organizational development and training interventions are rather common in workplaces. The underlying rationales and the goals of these interventions are, however, heterogeneous. They are sometimes designed for solving a particular problem, but more often they are part of more general personnel development practices. In Finland, many such interventions are initiated by occupational health services (OHS). They are planned on the basis of questionnaire surveys carried out in the workplace or as part of what is known as a work ability maintenance activity. This is a health promotion activity that is based on an agreement between Finnish social partners at the workplace level. In the late 1990s, under the auspices of projects and programmes financed by the European Social Fund, an extensive developmental project was carried out in Finland involving small and medium-sized companies (SMEs). This paper describes one such comprehensive health promotion programme. It focused on SMEs in Southern Finland between 1995-1998 (Huuskonen et al. 1999). The interventions in this programme were directed mainly at increasing personnel competence and at the organizational development of leadership, but also at increasing collaboration. The approach in one workplace was comprehensive, covering the physical work environment, job and organization aspects, as well as the health and well-being of employees. Attention was also paid to productivity.

This kind of a broad approach to intervention aimed at both the company and its employees can be seen in both the theoretical framework of promoting organizational health or in terms of the characteristics of a healthy workplace. The approach reflects the finding that a common set of job and organization characteristics can promote both the effectiveness of the organization and the well-being of its workforce (Murphy & Cooper 2000). Such approaches usually address organizational behavior, workplace health promotion or job stress prevention. The organizational health approach (Cox and Leiter 1994) is based on the concept that organizational health is affected by consistency between the objective and the subjective organization. Taking this a step further, analysis of how an organizational level intervention contributes to workers' well-being, working conditions and to organizational effectiveness, can be carried out.

Aims of the study

One aim of the present study was to investigate changes in job and organization characteristics and well-being during 1996-98. This was done using a survey among employees from small and medium-sized enterprises in southern Finland. These enterprises participated in a development programme aimed at promoting employees' working ability. Special attention was paid to the effects of organization development interventions on job and organization characteristics, as well factors contributing to employees' well-being and to the relative productivity and profitability of the enterprise. To some extent, individual-focused measures (treating employees' burnout) were also carried out within these organizations.

SMES and their employees

The first survey was conducted in the spring of 1996 and the second one in late 1997 / early 1998. Both surveys included 4068 employees and 218 employers' representatives (who also formed the follow-up group). Figure 1 presents the study design. All the enterprises and each employee received feedback on the results of the first survey. The individual results were compared to the reference data of the whole survey in order to allow for benchmarking. The feedback also included recommendations for improvements and interventions. Organizational or training-type interventions were planned and
implemented, in the different areas, and to various extents of company level. The interventions were carried out by the workplaces themselves using the project team, OHS personnel, or outside experts as consultants.

The original study population in 1996 was 7540, but 3472 of them had left the company or for some other reason they did not respond to the questionnaire. Of the companies that participated in first survey, 39 dropped out (e.g. because the time of the second survey was not suitable for them, the company had gone out of business or merged with another).

**March-June 1996**

Employee Survey 1

Feedback of survey results to employees

Employer Survey 1

Feedback of survey results to company

**Organizational development and training interventions**

**Employee Survey 2**

**Winter 1997-1998**

Employee Survey 2

Figure 1. Measurement and intervention design of the study

The follow-up group consisted of SMEs and their employees from various industries. The largest industries were the metal and engineering industry and construction. Of the participants, 65% were men and 35% women (Table 1).

Table 1. Employers and employees participating in both phases of the study according to the industry

<table>
<thead>
<tr>
<th>Industry</th>
<th>Number of employers</th>
<th>Employees</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Total number</td>
<td>Women</td>
</tr>
<tr>
<td>Food processing</td>
<td>8</td>
<td>181</td>
<td>75</td>
</tr>
<tr>
<td>Publishing and printing</td>
<td>15</td>
<td>302</td>
<td>59</td>
</tr>
<tr>
<td>Manufacture of electronic appliances</td>
<td>8</td>
<td>117</td>
<td>15</td>
</tr>
<tr>
<td>Motor vehicle sales and repair</td>
<td>11</td>
<td>206</td>
<td>18</td>
</tr>
<tr>
<td>Service stations</td>
<td>6</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>Hotels and restaurants</td>
<td>8</td>
<td>99</td>
<td>67</td>
</tr>
<tr>
<td>Metal &amp; engineering industry</td>
<td>53</td>
<td>1408</td>
<td>19</td>
</tr>
<tr>
<td>Construction</td>
<td>42</td>
<td>586</td>
<td></td>
</tr>
<tr>
<td>Transport</td>
<td>14</td>
<td>299</td>
<td>15</td>
</tr>
<tr>
<td>Retail</td>
<td>19</td>
<td>374</td>
<td>15</td>
</tr>
<tr>
<td>Accounting and other office work</td>
<td>29</td>
<td>374</td>
<td>74</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>102</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td>217</td>
<td>4068</td>
<td>35</td>
</tr>
</tbody>
</table>
Methods

Both employees and employer representatives responded to a questionnaire in 1996 and 1997-8. The questionnaires for employers were different from those for employees. The questionnaire for employees covered following scales or individual questions:

- Physical work environment
- Job characteristics
  - physical work load
  - time pressure
  - job control
- Organizational practices and climate
  - supervisory support
  - co-worker relations
  - continuous improvement practices
  - information about changes
  - job insecurity
- Well-being
  - positive social climate
  - appreciation of one's work
- Company productivity
  - relative productivity
  - relative profitability

At the first study round, the employees and employers identified various 'needs' for organizational development and training. Employees also identified their ‘need’ for individual support and help with problems in working conditions and work ability. The interventions, or training, carried out on these same topics were identified by both the employees and the employers at the second study round. Also, the use of the participatory approach in interventions was measured in both groups. The answers of those responding to the questionnaires of both study phases were compared at industry and whole group level. The relations between various work and organization characteristics and well-being and productivity, were analyzed using correlations, and the changes reported were modeled using linear regression analysis.

Results

Significantly, employees from microenterprises (less than 10 employees) perceived their job and organization characteristics, and job satisfaction as more positive than the others. Differences were also found between employees from various industries. During the follow-up period 1996 to 1997-8, time pressure increased and job insecurity decreased. The prevalence of general burnout symptoms increased from 10% to 15%. A marked increase was seen in distress symptoms, and a decrease was seen in optimism about the future. These changes were similar to those reported from national surveys of the same period.

Individual and organizational interventions

Some individual-focused measures addressed problems such as treatment of burnout. The individual measures taken to help employees needing help did not seem to be very effective, and the measures did not appear to be successful in reducing burnout symptoms among the majority of employees.

However, planned organizational interventions were positively related to increases in continuous improvements in the workplace. Employees' appreciation of their work and effective information about changes were positively related to all such implemented interventions.

Job and organization characteristics and interventions

The level of job and organization characteristics in the second survey was explained, to some extent, by the level of the respective characteristics in the first survey, but also by the interventions carried out. The only exception was time pressure at work: the interventions did not appear to impact upon this factor. Continuous improvement practices were related to various interventions as well as job control. Employees' appreciation of their work was also related to all interventions.

Well-being of employees

High job satisfaction (controlling its level before the intervention) was explained by high job control, supervisory support, continuous improvement practices and interventions focusing on supervisory practices (accounting for 37% of the variance).

Of the variance of overall burnout scores in the second survey, 36% was explained by the initial level of burnout in 1996 and by time pressure, low appreciation of one's work, lack of continuous improvement practices and lack of interventions promoting collaboration.
Both the relative productivity and profitability of enterprises as evaluated by the company representatives were related to positive workplace climate, supervisory support, continuous improvements and job satisfaction. High relative productivity was explained by factors such as good social climate. Improved relative profitability was explained by good supervisory support. In both these measures, new enterprises with higher numbers of employees tended to report higher relative productivity. Job satisfaction was also positively related to both relative productivity and profitability.

All interventions were positively related to profitability, especially multiskilling and leadership practice interventions. However, a company with good profitability can invest more easily in development.

Discussion

Overall, the results of this comprehensive health promotion programme among Finnish SMEs showed that planned organizational interventions were successful in terms of the improved quality of work organization and employee well-being, and company effectiveness. The individual-oriented interventions, however, were not effective at all. This was probably because they were not intensive enough and were not sufficiently supported by the organization.

The results support the model of organizational health. The same set organizational characteristics were related both to individual well-being and company effectiveness (Murphy & Cooper, 2000; Lindström et al., 2000). However, the evaluation of the interventions was based around a pre-post design, without any control group. Some quasi-experimental designs can be constructed to compare companies with interventions and those without interventions. The selection of companies receiving interventions was not documented. It was partly dependent on the active approach of the OHS personnel.

The intervention processes (e.g. Griffiths, 1999) at the workplace level in the enterprises studied are, however, still unknown, although some more intensive evaluation projects are in process. In the intervention process, the following aspects have been shown to be critical: organization of interventions, clarity of goals and commitment to goals, competence and encouragement of consultants, support from management and from all employees (Väänänen-Tomppo et al., 1999). In general, the organizational context and the company's history of previous developmental activities is important during a development activity.

References

Work Stress and Job Satisfaction in Portuguese Health Professionals

S. McIntyre (1), T. McIntyre (2) and J. Silverio (2)

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This report is based on a study of Portuguese health professionals in health centers in the northern region of Portugal. The sample is comprised of 114 physicians, 125 nurses and 129 administrative personnel from northern health centers. The subjects were given the Portuguese versions of the Brief Personal Survey, the Job Descriptive Index and the Job in General scales. The data show significant negative correlations between stress responses and the JDI scales, and positive correlations between these scales and reported coping resources. The responses of Anger-Frustration and Depression seem to have the most impact on job satisfaction, in the negative sense.

Introduction

The health of the workforce is an important factor in the productivity and quality of the product or service. Spending for health care, either directly or indirectly, is an important part of the budget of any company or country, and, in fact, has become one of the central issues for management (Keita & Hurrell, 1996). The National Institute for Occupational Safety and Health (1988) has identified psychological disorders as one of the 10 leading work-related diseases in the United States. The most prevalent disabling condition reported by the Social Security Administration, and which accounts for 21% of all allowances, is reported as being mental disorders. In a national survey of American workers, 72% reported that they experienced frequent stress-related physical or mental conditions that could increase health costs (Keita & Hurrell, 1996).

“Mental health professionals seem particularly vulnerable to severe emotional exhaustion and psychological tension” (Kirkcaldy & Siefen, 1991, p. 238). Kirkcaldy, Thome & Thomas (1989) did a study with German psychosocial workers in a variety of settings and concluded that there was evidence of professional burnout, characterized by greater job pressure and dissatisfaction, complaints relating to relationships with co-workers, and an inability to adequately pursue recovery needs or coping strategies. These concepts have prompted systematic studies of the sources of stress and the responses to stress in various occupations (Smith, 1978; Lindstrom, 1992).

Studies indicate that health care organizations, especially hospitals and health centers, constitute work environments with organizational characteristics usually associated with stress, such as multiple levels of authority, heterogeneity of personnel, work interdependence, and high degree of specialization (Calhoun, 1980; Rodrigo, 1995). Another source of stress inherent to health professions is the demand for intense social contact, which has been associated with burnout (Leppanen & Olkinuora, 1987; Pines, Aronson & Kafry, 1981). These researchers suggest that being responsible for people, such as having contact with patients and their families, contact among colleagues and with professional organizations, is more stress producing than being responsible for things.

The most commonly studied stressors in the work stress field include: 1) role stressors such as role conflict and ambiguity; 2) workload stressors such as work overload, tight deadlines, too many hours, and a fast, hectic pace; 3) job insecurity; 4) stressful interpersonal interactions and lack of social support, and 5) lack of control. In terms of being linked to mental and physical health outcomes, the workload stressors, lack of social support and lack of control enjoy the broadest empirical support. (Cooper & Locke, 2000).

Models of stress consistently treat stress as an antecedent to job satisfaction. Bedeian & Armenakis (1981) included tension and subsequently (dis)satisfaction as outcomes of role conflict and role ambiguity. In models of organizational stress research, Ivanchevich & Matteson (1980) and Kahn & Byosiere (1994) include job satisfaction as one of the direct outcomes of stress and mention that in a review of studies done on the effects of organizational stress since 1986, by far the most frequently cited response to stress is job dissatisfaction (Kahn & Byosiere, 1992). They go on to say that stress is a common aspect of the work experience and is expressed most frequently as job dissatisfaction, but it finds expression also in more intense and aroused affective states – anger, frustration, hostility and irritation. More passive responses would be boredom, tedium, fatigue, helplessness, hopelessness, lack of vigor and depressed mood. Marshall & Cooper (1979) also include job dissatisfaction as a mental health outcome of stress.
In this study, job satisfaction is defined as the feelings a worker has about his or her job or job experiences in relation to previous experiences, current expectations, or available alternatives (Balzer, Kihm, Smith, Irwin, Bachiochi, Robie, Sinar, & Parra, 1997). Although it was originally thought that workers had only an overall or global feeling of satisfaction about their work, it is now known that employees may feel differently about various aspects of the job including the work itself, pay, co-workers, etc. Job satisfaction has been found to be related to life satisfaction and mental and physical health, improved satisfaction has become an important outcome in its own right (Balzer et al., 1997).

Increased satisfaction may be a bonus to an organization in the form of reduced absenteeism, decreased turnover, and fewer work-related accidents. In addition, job satisfaction has been related to other variables, such as stress and discord within the work group, which may also affect employee productivity (Balzer et al., 1997). Job satisfaction studies have shown relatively consistent, negative and weak correlations with absenteeism and turnover (Cooper & Locke, 2000). To the extent that satisfaction can be improved, organizations can realize substantial monetary savings by reducing costs associated with lower productivity of substitute employees, hiring and training new employees, health insurance claims, and other expenses (Cohen, 1993).

In Portugal, research on job satisfaction and on occupational health is lacking, particularly regarding the health professions. However, there is some evidence that Portuguese physicians and nurses are experiencing considerable stress, especially in terms of burnout and depression (Felício & Pereira, 1994; Loff, 1992; McIntyre, McIntyre & Silverio, 1999). A study investigated job satisfaction in 620 health professionals in Portuguese health centers in the southern region (Graça, 1999) and revealed that doctors were globally more satisfied than nurses and administrative staff. Regarding physicians, the areas of dissatisfaction were salary, confidence in relation to future health policy and in regards to work safety, workload, lack of training on how to deal with stress and having essential resources to be able to do their job. However, to our knowledge, no studies have researched the relationship between stress and job satisfaction in an attempt to determine its antecedents in Portuguese health professionals.

This report is based on a study of Portuguese health professionals in health centers in the northern region of Portugal which determined the sources of occupational stress, stress responses, coping resources and job satisfaction. The data reported here examines the relationship between stress responses and coping resources, and job satisfaction in these professionals considering job stress as an antecedent to job satisfaction. It is expected that there will be significant negative correlations between stress responses and the JDI scales, and positive correlations between these scales and reported coping resources. The most important predictors of job satisfaction are examined.

Method

Subjects
The sample is comprised of 368 physicians, nurses and administrative staff in a random representative sample of the northern health centers: 114 physicians, 125 nurses and 129 administrative personnel were evaluated. On the average, 74.6% of the sample is female and 25.4% male. The mean age of the health professionals is 44.7 and 74.4% of them are married with an average of 1.59 children (SD=.96).

In terms of professional characteristics, these professionals have 19.96 years of service (SD=9.69), with 14.52 years spent in their current position (SD=9.53). Regarding night shifts, 31.8% indicate this type of work and 45.8% report doing weekend and holiday shifts.

Instruments and Procedures
The subjects were given the Portuguese versions of the Brief Personal Survey (Mauger, 1994), the Job Descriptive Index and the Job in General scales (Balzer et al.), as well as a brief demographic information form.

In order to evaluate the stress responses of the health professionals and their general coping resources, the authors used the Portuguese adaptation of the Brief Personal Survey (McIntyre, McIntyre & Silvério, 1995) a 99-item self-report questionnaire which was developed as a quick screening tool for use in health care settings. The inventory is comprised of two Validity scales (Good Impression and Denial), nine Stress Response Scales which measure the ways in which persons react to stress of which we are using five (Health Distress, Pressure-Overload, Anger-frustration, Depression and Anxiety), and three Stress Resource Scales which evaluate the person’s coping resources (Social Support, Existential Resources, Coping Confidence).

The Job Descriptive Index (JDI) is a Portuguese translation of the new revision of the JDI (McIntyre, McIntyre, Silvério, Iglésias & Godinho, 1998). The English version of the JDI is composed of five scales that evaluate facets of job satisfaction which were derived by factor analysis. Each scale has 18 items, except for the pay and opportunities for promotion which have 9 items each. The five scales are
satisfaction with work; pay; opportunities for promotion; supervision; people on the present job. For this study, the satisfaction with people on the present job was transformed in two scales, satisfaction with colleagues and satisfaction with people (clients), each with 18 items.

The Job in General (JIG) scale is a Portuguese adaptation of the English version and looks at the overall, or global long-term evaluation of the job. It is composed of 18 items. As with the JDI, the items are a collection of adjectives and short phrases that summarize feelings about the job. The items are evaluative and global rather than descriptive and specific (in contrast to the JDI) and have a long-term, rather than a short-term, frame of reference.

The sample was randomly selected from personnel lists provided by each institution. The self-report instruments as well as an introductory letter and an informed consent form, were distributed in each service by a representative of each professional group. The sealed envelopes were then returned to the researchers and a code was attributed to each subject to insure confidentiality. The response rate was 70%, being slightly lower among physicians.

Results

The relationship between stress responses, stress coping resources and job satisfaction scales was investigated using Pearson correlation coefficients. The results are presented in Table 1 and confirm the prediction that most stress response scales are negatively correlated with job satisfaction and that the stress coping resources have a positive correlation with the JDI scales.

Table 1 Correlations Between Job Satisfaction and Stress Responses and Resources (N = 366)

<table>
<thead>
<tr>
<th>Job Satisfaction</th>
<th>Stress Responses</th>
<th>Stress Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Health Distress</td>
<td>Pressure-Overload</td>
</tr>
<tr>
<td>Work on Present</td>
<td>-0.049</td>
<td>-0.155**</td>
</tr>
<tr>
<td>Pay</td>
<td>-0.097</td>
<td>-0.016</td>
</tr>
<tr>
<td>Opportunity for Promotion</td>
<td>0.033</td>
<td>-0.107</td>
</tr>
<tr>
<td>Supervision</td>
<td>-0.023</td>
<td>-0.069</td>
</tr>
<tr>
<td>Colleagues</td>
<td>0.038</td>
<td>-0.086</td>
</tr>
<tr>
<td>Clients</td>
<td>-0.060</td>
<td>-0.105</td>
</tr>
<tr>
<td>JIG</td>
<td>-0.034</td>
<td>-0.181**</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level
*Correlation is significant at the 0.05 level

Regarding stress responses, low but significant correlations were found between global job satisfaction and satisfaction with work, and all the stress responses except health distress. Satisfaction with opportunity for promotion, with colleagues and clients are also negatively correlated with anger-frustration and depression. Anxiety is negatively correlated with satisfaction with work, supervision and clients, as well as with global satisfaction. The larger correlations are with anger-frustration and between global satisfaction and satisfaction with work, and depression. Satisfaction with pay did not correlate with any of the five stress response scales.

In terms of stress coping resources, small but significant positive correlations were found between the job satisfaction scales global satisfaction, satisfaction with work, with supervision, with colleagues and with clients, and the three coping resources, social support, coping confidence and existential resources. Satisfaction with pay only correlated with existential resources and satisfaction with opportunities for promotion only correlated with social support and existential resources.

In order to ascertain which are the most important stress response predictors of job satisfaction, several forward stepwise regressions were run with the stress response variables (health distress, anxiety, depression, anger/frustration and pressure/overload) as the independent variables, and each of the job satisfaction scales as the dependent variables. The significant regression analyses results are presented in Tables 2 and 3.

The results in Table 2 shows that some stress response scales are modest but significant predictors of global job satisfaction and some facets of job satisfaction, with the percentage of variance explained ranging from 3% (for satisfaction with clients) and 7% (for satisfaction with work and satisfaction with promotion). Anger-frustration and depression were the most significant predictors of global job satisfaction and most other facets of job satisfaction. The stress response scales were not significant predictors for satisfaction with pay.
Table 2: Significant stepwise regression results for stress response variables as independent variables and job satisfaction scales as dependent variables

<table>
<thead>
<tr>
<th>Dependent Variable: JIG</th>
<th>R² Change</th>
<th>Beta</th>
<th>t</th>
<th>P</th>
<th>sr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent: Anger/Frustration Depression</td>
<td>.047</td>
<td>-.22</td>
<td>-3.02</td>
<td>.003</td>
<td>-.16</td>
</tr>
<tr>
<td>Independent: Depression</td>
<td>.019</td>
<td>-.16</td>
<td>-2.72</td>
<td>.007</td>
<td>-.14</td>
</tr>
</tbody>
</table>

Multiple R = .26; Adjusted R² = .06; F(2,363) = 12.84; p = .000

<table>
<thead>
<tr>
<th>Dependent Variable: Satisfaction with Work</th>
<th>R² Change</th>
<th>Beta</th>
<th>t</th>
<th>P</th>
<th>sr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent: Depression</td>
<td>.055</td>
<td>-.18</td>
<td>-3.24</td>
<td>.001</td>
<td>-.17</td>
</tr>
<tr>
<td>Independent: Anger/Frustration</td>
<td>.024</td>
<td>-.16</td>
<td>-3.05</td>
<td>.002</td>
<td>-.15</td>
</tr>
</tbody>
</table>

Multiple R = .28; Adjusted R² = .07; F(2,363) = 15.40; p = .000

<table>
<thead>
<tr>
<th>Dependent Variable: Satisfaction with supervisors</th>
<th>R² Change</th>
<th>Beta</th>
<th>t</th>
<th>P</th>
<th>sr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent: Anger/Frustration</td>
<td>.05</td>
<td>-.22</td>
<td>-4.39</td>
<td>.000</td>
<td>-.22</td>
</tr>
</tbody>
</table>

Multiple R = .22; Adjusted R² = .048; F(1,364) = 19.30; p = .000

<table>
<thead>
<tr>
<th>Dependent Variable: Satisfaction with people</th>
<th>R² Change</th>
<th>Beta</th>
<th>t</th>
<th>P</th>
<th>sr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent: Depression</td>
<td>.032</td>
<td>-.18</td>
<td>-3.47</td>
<td>.001</td>
<td>-.18</td>
</tr>
</tbody>
</table>

Multiple R = .18; Adjusted R² = .03; F(1,364) = 12.01; p = .001

<table>
<thead>
<tr>
<th>Dependent Variable: Satisfaction with promotion</th>
<th>R² Change</th>
<th>Beta</th>
<th>t</th>
<th>P</th>
<th>sr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent: Anger/Frus. Anxiety Depression</td>
<td>.04</td>
<td>-.23</td>
<td>-3.97</td>
<td>.000</td>
<td>-.20</td>
</tr>
<tr>
<td></td>
<td>.01</td>
<td>.20</td>
<td>3.05</td>
<td>.002</td>
<td>.16</td>
</tr>
<tr>
<td></td>
<td>.02</td>
<td>-.17</td>
<td>-2.75</td>
<td>.006</td>
<td>-.14</td>
</tr>
</tbody>
</table>

Multiple R = .26; Adjusted R² = .069; F(3,362) = 9.01; p = .000

<table>
<thead>
<tr>
<th>Dependent Variable: Satisfaction with colleagues</th>
<th>R² Change</th>
<th>Beta</th>
<th>t</th>
<th>P</th>
<th>sr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent: Anger/Frus. Anxiety Depression</td>
<td>.04</td>
<td>-.21</td>
<td>-4.08</td>
<td>.000</td>
<td>-.21</td>
</tr>
</tbody>
</table>

Multiple R = .21; Adjusted R² = .041; F(1,364) = 16.64; p = .000

Table 3 presents the results for stress coping resources as predictors of job satisfaction. The results suggest that coping resources constitute a modest but significant predictor of job satisfaction but their importance presents more variation, ranging from 1% of variance explained for satisfaction with pay to 9% for global satisfaction. It is interesting to notice that social support constituted a weaker predictor than either coping confidence or existential resources, seeming to be more important for the satisfaction with colleagues than in other facets of job satisfaction.
Multiple R = .32; Adjusted R² = .09; F(3,362) = 13.34; p = .000

Dependent Variable: Satisfaction with Work
Independent:
- Existential Resources: .039, .16, 3.12, .002, .16
- Social Support: .019, -.14, 2.70, .007, .14

Multiple R = .24; Adjusted R² = .05; F(2,363) = 11.23; p = .000

Dependent Variable: Satisfaction with supervisors
Independent:
- Coping Confidence: .03, .17, 3.20, .002, .17

Multiple R = .17; Adjusted R² = .025; F(1,364) = 10.21; p = .002

Dependent Variable: Satisfaction with people
Independent:
- Existential Resources: .051, .20, 3.84, .000, .20
- Coping Confidence: .013, .12, 2.27, .024, .12

Multiple R = .26; Adjusted R² = .06; F(2,363) = 12.46; p = .000

Dependent Variable: Satisfaction with salary
Independent:
- Existential Resources: .01, .10, 1.99, .047, .10

Multiple R = .10; Adjusted R² = .008; F(1,364) = 3.97; p = .047

Dependent Variable: Satisfaction with promotion
Independent:
- Existential Resources: .06, .25, 4.87, .000, .25

Multiple R = .25; Adjusted R² = .059; F(1,364) = 23.72; p = .000

Dependent Variable: Satisfaction with colleagues
Independent:
- Social Support: .05, .22, 4.35, .000, .22

Multiple R = .22; Adjusted R² = .047; F(1,364) = 18.92; p = .000

---

**Discussion and Conclusion**

Regarding the overall relationships between job satisfaction and stress responses/resources, the results found show that, although modest, significant correlations exist which are in the expected direction, i.e., that negative stress responses are negatively correlated with job satisfaction and that positive stress resources are positively correlated with job satisfaction.

The stress response scales were modest but significant predictors of global satisfaction and most of its facets. These results are in accordance with other studies that connect low job satisfaction with stress symptoms (Firth-Cozens, 1999). However, it appears that there are some stress responses that are better predictors of job satisfaction than others. In this case, people who are angry and frustrated, and/or depressed are likely to be more dissatisfied with their work. Depression and anger have been associated with low job satisfaction and with poor performance and low patient satisfaction (Firth-Cozens and Greenhalgh, 1997; Grol, 1990).

For instance, the scale *Supervision* shows a significant correlation with *Anger-Frustration*. There is evidence that people who are negative, depressed outside of the job are more likely to rate negatively the job itself, i.e. people who come in with a bad attitude will have a bad attitude about their
work, it colors their perspective (Cooper & Locke, 2000). Although important, the stress resources do not seem to play as big a role in satisfaction with one’s supervisor. We can see that the JIG has significant correlations with all scales of the BPS except Health Distress, which is primarily concerned with physical symptoms. It seems that one’s physical distress does not predict one’s evaluation of job satisfaction whereas most psychological stress responses do, perhaps because psychological well being is more associated with satisfaction. In contrast, Global satisfaction is negatively correlated with Pressure Overload, Anger-Frustration, Anxiety and Depression (all of which are stress responses).

The stress coping resources seem to be less consistent predictors of job satisfaction. They seem to be particularly relevant for global job satisfaction, satisfaction with work and with clients. It is worth noting that social support was not as significant a predictor as one would expect from the literature (Jones & Fletcher, 1996), being more salient for satisfaction with one’s colleagues. A possible explanation is that the Social Support measured by the BPS is support from family and friends and not social support on the job.

To summarize, the data shows evidence of some association between stress responses, stress coping resources and job satisfaction as antecedents of job satisfaction. However, much variance is left to be explained by these sets of variables, which highlights the multidetermined nature of this construct. The responses of Anger-Frustration and Depression seem to have the most impact on the way that people experience their job and can be valuable in helping to increase one’s job satisfaction. More research is needed in order to test different paths in the relationship among these variables.

References


Psychophysiological and Psychosocial Indicators of the Efficacy of a Stress Management Program for Health Professionals: Phase 1

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(2) Instituto Superior da Maia, Portugal
(3) Hospital de São Marcos, Portugal
(4) University of St. Andrews, United Kingdom

Bial Foundation Project nº 41/98

This project aims to investigate the efficacy of an innovative stress management program for health professionals using both psychophysiological and psychosocial indicators. The data collection has two phases. In phase 1, the GHQ-12 is given to all the health professionals from a central hospital in the northern region of Portugal as a general stress diagnosis. In Phase 2, the professionals with high scores on the GHQ-12 are offered an in depth stress diagnosis consisting of psychosocial and psychophysiological measures. The final sample consists of about 200 health professionals who agree to do the in depth evaluation (Pre-test) and will be randomly assigned to either an experimental group (8-week stress management intervention) or a control group (waiting list). Subsequent measures for both groups will be taken at post-test, 3-month and 6-month follow up. This report refers to Phase 1, general stress diagnosis. The GHQ12 data indicate that the prevalence of stress in these health professionals is superior to that reported in the international literature. Professional characteristics were more important than demographic aspects in predicting GHQ scores.

Introduction

Occupational stress, defined as “the interaction of work conditions with the characteristics of the worker in such a way that job demands exceed the capacity of the worker to deal with them” (Ross & Altmaier, 1994, p. 12), has not been a political, social or health concern in Portugal, especially regarding the well being of health professionals. Only this year, there has been a Ministry of Health directive to have an office of occupational health at central hospitals, thus starting to consider this dimension of health care.

Although the research on stress in Portuguese health professionals has been equally scarce, these data reveal significant levels of stress and burnout for physicians and nurses (McIntyre, 1994; McIntyre, McIntyre & Silvério, 1999; Loff, 1992; Felício & Pereira, 1994). Loff (1992) conducted a study of 92 nurses who were having psychiatric counselling reporting that these nurses represented 20% of the total nursing staff, had an average age of 47, 37% were over the age of 50, and 79% had direct patient contact. Loff reported that 82% of those nurses presented recurrent psychological problems and that 12% had attempted suicide. The rate of absenteeism for this group was 50%. Nogueira (1988) did a pilot study of burnout and depression in 182 General Practice physicians of both sexes in Northern Portugal. The study focused on organisational sources of stress and the main sources found were patient and consultant overload, inadequate pay and frustrated professional ambitions. He reported that 86.8% of the physicians presented symptoms of burnout and that 82% of these were in phase three (chronic symptoms). He also reported that 33.8% of the male and 66.2% of the female physicians presented some form of depression. In another study, Felício and Pereira (1994) also studied occupational stress in 60 General Practice physicians of both sexes in Southern Portugal. They found the primary sources of stress to be work overload and a lack of adequate physical or technical resources. With regard to the symptoms of stress, they reported more moderate levels of stress and that the behavioural and intellectual symptoms were more prevalent than the physical ones for both sexes.

More recently, McIntyre, McIntyre & Silvério (1999) did a study of 118 hospital nurses in two types of service: chronic (internal medicine and rehabilitation) and acute care (intensive care and emergency work). They found that the sources of stress varied with the type of care: for chronic care they were work overload, lack of human and technical resources and patient’s clinical status whereas for acute care they were health risks, uncertainty and limitations of medical knowledge, work overload and hierarchical demands. However, the stress responses did not vary with type of service with the top five being denial, anger/frustration, physical complaints, depression and guilt. These results were independent of the sex of the professional and type of care.

These data, although limited and in need of replication, suggest that the levels of stress of health care personnel in Portugal need to be adequately assessed, preferably in comparison to professionals that are not in...
health care work, in order to ascertain if there are differences among professional groups, such as has been suggested in previous literature (Wall et al., 1997), and in order to identify target groups for stress management intervention.

Internationally, over the last 25 years there has been an increase in the implementation of stress management interventions (SMT) for health professionals (Murphy, Hurrell & Quick, 1992). These interventions have typically adopted multi-modal individual level strategies which focus on stress education, relaxation training, cognitive appraisal and coping strategies, assertiveness training and time management (Ivancevich, Matteson, Freedman & Phillips, 1990; Jones & Johnston, 1992; Michie & Ridout, 1990). The effect of such interventions included increases in job satisfaction, reductions in perceived stress, anxiety and other psychological symptoms as well as improvement in work performance (Michie & Ridout, 1990; Michie, Ridout & Johnston, 1996; Reynolds, Taylor & Shapiro, 1993; Tsai & Crocket, 1993).

The current project aims at filling in the existing gap in the development and evaluation of stress management programs for health professionals in Portugal. The study is innovative at an international level by considering a rigorous evaluation of both, objective (psycho-physiological) and subjective measures, attempting to determine the type of indicator that is most sensitive to psychological intervention. Measures of organisational impact are also considered (absenteeism).

The objective of Phase 1, called Stress Diagnosis, is to select a sample of stressed personnel from the staff of a central hospital, which will be offered a multimodal stress management program. These data will also be analysed in terms of determining the prevalence of stress among the professional groups considered and the most salient demographic and professional predictors of stress scores.

**Methodology**

The full project has different stages, which are briefly described below.

**Phase 1 – General Stress Diagnosis:** comprises a general stress diagnosis offered to the entire staff of a central hospital in the northern region of Portugal. The GHQ-12 cut-off of two thirds will be used to indicate significant clinical symptomatology. Each participant will receive personal feedback of his or her results.

**Phase 2 – Pre-test:** The subjects that reach the cut-off will be given the opportunity to participate in an in depth stress diagnosis consisting of psychosocial, clinical and psycho-physiological measures. About 200 subjects will be selected from these subjects with half being randomly assigned to an experimental group (stress management intervention) and the other half to a control group (waiting list).

**Phase 3 – Post-test and Follow up:** Follow up measures will be taken at post-test, 3 months and 6 months for both groups. Absenteeism 6 months prior to and following the intervention will also be measured.

**Publicity and Sample Recruitment:** Organising a careful negotiation of the project with the Hospital Administration was essential to obtain institutional support and credibility with the hospital staff. Sample recruitment is also a difficult task requiring careful planning and marketing of the project in order to maximise participation. Therefore, preparation involved introductory letters, posters and personal contacts with the health professionals, as well as the valuable work of health professionals from the hospital within the research team.

**Measures**

The study will use psychosocial measures, psychophysiological measures and clinical measures. A more detailed description of the methodology and instruments can be found in McIntyre and colleagues (2000).

**PHASE 1: STRESS DIAGNOSIS**

**Sample**

The sample is made up of 705 health professionals: 104 physicians, 312 nurses, 74 administrative personnel, 185 auxiliary staff and 30 technicians of both sexes (533 females and 172 males). The mean age for the sample is 38.93 (SD = 9.93) and 68.7% of the sample is married. In terms of professional characteristics, 58.7% perform night shift work, the daily work load is 7 hours per day (SD = .67) and the average number of years in the profession is 14.7 (SD = 9.7). The average years of service in this hospital is 12.05 (SD = 9.3) and years in the unit is 8.7 (SD = 8.2).

**Procedure**

The procedure for data collection involved a marketing phase and a collection phase, which are briefly described below.

**Marketing:**

A poster advertising the stress diagnosis, which invited staff to take advantage of this opportunity, was placed in various locations throughout the hospital two weeks before the stress test.

A letter from administration advertising the stress diagnosis and encouraging staff to participate was sent to each health professional during the week before the stress diagnosis.
**Data Collection:**
The GHQ12, an informed consent form and a short sociodemographic questionnaire were given to professionals in a closed envelope to fill out and be collected within 1 hour. Absent personnel were contacted during subsequent shifts until everybody had a chance to fill out the questionnaire according to the same procedure. The response rate for the physicians was 39.2%, for the nurses was 54.5%, for the administrative personnel 50.3% and for the auxiliary staff 81.9%. The overall response rate was 51.9%.

**Instrument**
The stress diagnosis was based on the Portuguese version of the General Health Questionnaire 12 (Goldberg, 1992; McIntyre, McIntyre & Redondo, 1999). The psychometric properties of the GHQ12 in the current sample were tested in terms of reliability and construct validity. The Cronbach’s alpha coefficient was .83, indicating a good internal consistency of the instrument. The confirmatory factor analysis produced two factors which explain 46.5% of the total variance. These values are similar to those found for the original version (Goldberg & Williams, 1988).

**Results**
The prevalence of stress in the overall sample and in each group of health professionals is presented in Table 1. Using the GHQ-12 cut-off threshold of two thirds as indicated in the manual (Goldberg & Williams, 1988), we found a 38.8% prevalence of significant stress symptoms (n = 273). The prevalence among physicians was 34%, 39.7% for nurses, 45.9% for administrative personnel and 34.6% for auxiliary staff. The prevalence for the remaining 30 health professionals (Diagnostic technicians and other technicians) was 53.3%. In general, these percentages are higher than those found in the literature (Wall et al, 1997).

<table>
<thead>
<tr>
<th>Type of Health Professional</th>
<th>Number</th>
<th>% of Stress*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physicians</td>
<td>104</td>
<td>34</td>
</tr>
<tr>
<td>Nurses</td>
<td>312</td>
<td>39.7</td>
</tr>
<tr>
<td>Administrative</td>
<td>74</td>
<td>45.9</td>
</tr>
<tr>
<td>Auxiliary Staff</td>
<td>185</td>
<td>34.6</td>
</tr>
<tr>
<td>Other</td>
<td>30</td>
<td>53.3</td>
</tr>
<tr>
<td>Total</td>
<td>705</td>
<td>38.8</td>
</tr>
</tbody>
</table>

* Stress was measured using the GHQ-12 (Goldberg, 1988), (2/3 caseness cut-off)

The four groups were compared using the One-way ANOVA procedure which produced non significant results (F (3,670) = 1.86, p = .13). The data suggest that the four groups are comparable in terms of mean GHQ-12 scores.

In order to investigate possible demographic and professional predictors of GHQ-12 scores, stepwise regression analyses were computed. The results are presented in Tables 2 and 3.

**Table 2** Significant stepwise regression results for sex, age, and education as predictors and the GHQ - 12 Scores as dependent variable

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>R² Change</th>
<th>Beta</th>
<th>t</th>
<th>p</th>
<th>sr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>.007</td>
<td>.124</td>
<td>3.009</td>
<td>.003</td>
<td>.116</td>
</tr>
<tr>
<td>Education</td>
<td>.013</td>
<td>-2.27</td>
<td>-2.927</td>
<td>.004</td>
<td>-.113</td>
</tr>
</tbody>
</table>

Multiple R = .141; Adjusted R² = .015; F(3,662) = 4.463; p = .004

With regard to the demographic predictor’s sex, age and education, only age and education were found to be significant, yet weak, predictors of GHQ scores, only accounting for 1.5% of the variance in stress scores. The data shows that the older and less educated the health professionals the more stressed they tend to be.
Table 3 Significant stepwise regression results for years in the profession, years of service, daily workload and night shifts as predictors, and GHQ-12 scores as dependent variable

<table>
<thead>
<tr>
<th>Dependent Variable: GHQ-12</th>
<th>$R^2$ Change</th>
<th>Beta</th>
<th>t</th>
<th>P</th>
<th>sr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Night shift</td>
<td>.020</td>
<td>.120</td>
<td>3.015</td>
<td>.003</td>
<td>.116</td>
</tr>
<tr>
<td>Daily workload</td>
<td>.008</td>
<td>.095</td>
<td>2.489</td>
<td>.013</td>
<td>.096</td>
</tr>
<tr>
<td>Years in the profession</td>
<td>.007</td>
<td>.086</td>
<td>2.193</td>
<td>.029</td>
<td>.085</td>
</tr>
</tbody>
</table>

Multiple R = .188; Adjusted $R^2 = .029$; $F(4,663) = 6,045$; $p = .000$

In terms of professional predictors, years in the profession, years of service in the current hospital, daily work load and night shifts, the significant predictors of stress scores were night shift, daily work load and years in the profession, with this set of variables accounting for 2.9% of the variance in GHQ scores. It appears that performing night shifts, working more hours and having longer years in the profession are associated with increased stress symptoms. However, given the small magnitude of the partial correlations, interpretation of these associations has to be very tentative.

Discussion and conclusion

A rigorous study of the efficacy of a stress management program for health professionals is a difficult task in Portugal, since professionals are overworked and there is a high denial of the toll of professional stress, both at the individual and organisational levels, factors which tend to decrease participation rates. Therefore, this kind of initiative has to have a clear support on the part of the administration of the health institution and a careful internal marketing of the program has to be done prior to its implementation, such as was described above. However, the reviewed literature indicates that the sequelae of occupational stress are becoming evident in the Portuguese health professionals, rendering this kind of intervention a necessity.

The results of Phase 1 of this project- the stress diagnosis- constitute a first effort of assessing the prevalence of psychological disturbance in a large sample of Portuguese health professionals, although limited to one institution and to those who responded. The prevalence rates found in general, and for each professional group, are higher than those reported abroad (Wall et al., 1997) indicating that, at least for this institution, the staff are experiencing a significant level of distress. This seems to be independent of the type of professional, which suggests that this may be a more general problem. The 273 professionals constituting the pool from which the intervention groups will be drawn, is large enough to allow implementation of the stress management efficacy study, also confirming the relevance of this type of intervention program for the staff of the institution.

The data on the demographic and professional predictors of GHQ scores indicate only modest associations between these and the stress scores. Age and the night shiftwork seemed to be the best predictors of stress scores, which is in accordance with the literature (Jamal & Baba, 1997). However, the very small amount of variance accounted for suggests that other factors, such as control, job demands and social support are more important predictors (Jones & Fletcher, 1996). A more in depth analysis of the psychosocial and psychophysiological correlates of stress will be provided by Phase 2 of this project, which has the advantage of following professionals over time for a period of 6 months.

In conclusion, the data on prevalence confirms previous findings and point to the need to intervene at both individual and organisational levels in order to reduce the effects of occupational stress in Portuguese health professionals. However, Portuguese psychologists need to assess the adequacy of Anglo-Saxon models of intervention in order to adjust to the Portuguese reality. In terms of health policy, there is an urgent need to include occupational stress as a key issue in the current reorganisation of management and health care.

References


Managers’ Gender - An Indicator of How Positive Employee Survivors Evaluate Organisational Downsizing?

M. MELÉN
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One-hundred and ninety-six female employees were studied with a questionnaire before, during and after a downsizing period in a public sector organisation. Overall wellbeing, job characteristics and attitudes towards change were measured. An evaluation of the managerial support provided was also taken during this period. In addition, those outcome-variables that were found to be related to the manager were measured on the third round. The aim of this study was to assess whether managers’ gender had an impact on employees reporting positive during this period. Further, would the women feel more supported by a male or a female manager? Results indicated that employees reported positive responses overall on the measurement scales. In the third round, assessing outcome variables specifically related to the manager, those employees with a female manager were significantly more positive to change than their male counterparts. These employees also evaluated their manager as being more creative and reported that they received more managerial support.

Introduction
Throughout the last few decades, the number of women in managerial positions in Sweden has been increasing. However, the labour market remains segregated between men and women, and as a result men and women are found within different sectors in the labour force. In Sweden, female members of the workforce largely work within non-profit public sector organisations (73% of workforce). Consequently, about 50% of managerial positions (at mid-level) within the non-profit public sector are held by women (SCB, 1997). Although female managers are becoming a more common phenomenon, it is still interesting to compare female managers with their male counterparts with regard to leadership-style, efficiency etc.

Since the 1990s, Swedish public sector organisations have been subject to severe downsizing. This gives the opportunity to study and compare the effect of manager's gender on the outcome among downsizing survivors. Several studies on the relationship between women and downsizing have been conducted during the nineties (e.g. Hobfoll, Dunahoo, Ben-Porath, & Monnier, 1994; Armstrong-Stassen, 1997). A common pattern in these studies is that gender is a complicated issue to study since women and men in labour force are active on different arenas. Thus, men and women are different to match. In addition, a female manager is still something special both to female and male employees. A female manager still is someone to test whereas a male manager is someone to accept (Jeanquart-Barone & Sekaran, 1994).

Study objectives
The aim of this study was to assess whether managers’ gender had an impact on employees reporting positive responses during this merger process. If the employee had a man or a woman as manager, would they report differently through and after the downsizing on important variables? In addition, would these women feel more supported by a male or a female manager? The Managers gender was therefore controlled for as being of possible importance.

Method
Participants
The two Social Insurance Organisations (SIO) of Scania, Sweden were in 1997 headed towards a merger on the 1st of January 1999. Major organisational changes could be expected for about 1600 employees. The personnel structure in this public service organisation mainly consists of women (>80%). Men mainly represent the top-level managers whereas the middle level managerial positions are shared equal between the two sexes. This study attends to the effects of middle level management.

In an earlier study within the SIO (Söderfeldt, Söderfeldt, Ohlsson & Warg, 1996) the personnel was characterised as a typical origination within the public sector, consisting predominantly of women who lacked higher education, but received extensive education internally. In 1999, 83% of the workforce were female (Riksöverskäringsverket, 1999).

196 employees holding non-managerial positions within the SIO participated in this longitudinal study conducted during the merger process. These employees comprised two groups - Group a) (N =106) had a female manager and group b) (N = 90) had a male manager. The mean age among the respondents was $M = 49$ years old ($SD = 5$) with $M = 25$ years ($SD = 5$) of work experience from the present organisation.
Initially, the study consisted of 220 respondents. However, as the amount of male participants among the respondents was only \( N = 25 \) they were excluded from all the further analysis. Thus the remaining 196 participants in the study were all females. This corresponded with a response rate of 69%. Those employees that referred to a female manager (\( N = 106 \)) were divided between six different managers and those that referred to a male manager (\( N = 90 \)) were divided between five different managers.

**Questionnaire and procedure**

Data regarding several job characteristics and affective outcomes related to managerial level were collected in three rounds. The questionnaire was send by post to the employees’ workplace. The first collection was done one year before the formal merger, the second one month after the formal merger. The third point of data collection was one and a half years after the formal merger.

**Measures.** Overall job characteristics was measured with scales tapping Job motivation (6 items), Job satisfaction (Extrinsic 7 items and Intrinsic 7 items) (Warr, Cook & Wall, 1979) Wellbeing related to flow (10 items) and stress (13 items) and Attitudes towards change (4 items). The specific managerial aspects were measured with scales tapping the evaluation of Informational channels (between manager and employee during the downsizing) (3 items), Employees view if managers creativity (3 items) and Support from manager (5 items). Further, variables measured only after the 3rd round was Procedural fairness (3 items), Trust (if employee trust the management) (5 items) and Outcome favorability (if decision are in favour of the employee) (3 items) (Brockner & Siegel, 1997). The items all had a five-point response scale and total scores were obtained by averaging the item scores, with higher values representing greater outcome satisfaction.

**Statistical analysis:** LISREL 8.3 package (Jöreskog & Sörbom, 1993) was used in order to test each scale for factor structure invariance between the two groups across the three measure occasions. In a model of full factorial structure invariance all the item loadings, factor correlation and error variances should be identical for both groups. Factor structure invariance between groups allows for further group comparisons (Cheung & Rensvold, 1999).

**Results**

Factorial invariance between the groups was reached in each variable measured over time. Mean scores demonstrate that on average both groups report high psychosocial wellbeing before, during and after the downsizing. The evaluation of continuous support from the manager during the downsizing also indicated high satisfaction.

Independent sample \( t \)-test indicate that the two groups (with either a male or a female manager) are significantly different at the third round, with those employees with a female manager:

- Reporting a more positive attitudes towards Change, \( t (196) = 2.02, p < .05 \).
- Evaluating their manager as being more Creative \( t (196) = 4.63, p < .001 \).
- Feeling more Supported by their manager \( t (196) = 2.62, p < .01 \).

**Discussion**

The statistical material allows for further advanced LISREL-modelling (under progress) to investigate and understand any causal properties between the longitudinal data and the outcome-related variables measured for the third round only. However, so far the results indicate that the female manager is more positively evaluated on a few aspects.

**References**

Deregulation, Changes in Job Content and Consequences for Workplace Health Promotion

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Since the middle of the 1980’s, different business areas in the European countries have been deregulated and accelerated exposed to competitive markets. This paper focuses on the changes in job content and work design following the deregulation of the Norwegian energy industry, and how these changes effect workplace health promotion. The need for numerical and functional job-based flexibility changes the employees’ job content and increases the relevance of operational knowledge, increased work interdependence and demands for abstract and cognitive qualifications. There seems to be increased individual responsibility for health and learning. There is a trend towards integrating health promotion in business development projects. These projects may represent a new arena for collaboration on health promotion.

The project
In Norway, as in other European countries, economic deregulation and accelerated exposure to competitive markets has been the norm for many businesses since the middle of the 1980’s. This new trend started with deregulation in the financial sectors and continued into the telecommunications, electricity, oil and gas production industries as these different industries adjusted to the requirements of European Union regulations.

This study is one part of the project “Restructuring the energy industry: Work design, health and productivity” financed by the Norwegian Research Council. The main aim of the project is to investigate the consequences of deregulation and restructuring on productivity and health, and to “carry out health promotion interventions” within selected work units and risk groups. This presentation describes how changes in job content and work design may influence workplace health promotion.

The project has been conducted within 13 electric energy companies in Norway, and has a longitudinal and combined natural and quasi-experimental design. In addition to three surveys, due to be carried out in during 1999-2002, data is being collected through interviews with managers, union representatives and key personnel. Group interviews on the shop floor are also being undertaken and archive data utilised. Between the second and third project stages members of the research team will perform group and organisational interviews. These will be conducted on a random basis. The interventions initiated and carried out by the companies in a random sample of work units will also be described (i.e. the natural experiments).

Restructuring in the electric energy industry
All the companies in this project have been involved in organisational restructuring following deregulation because of the new Energy law of 1991. For some organizations, this has resulted in multiple restructuring. Only a few of our management sources reported that they had a visionary picture of the changes they expected would follow, or a clear idea of their future business direction. The changes they mentioned were mostly driven by ad-hoc decisions based on internal and external demands for structural changes, productivity increases and cost reductions. On fixed indicators in the interview guide, however, it was possible to identify a pattern of responses that reflected the rationale behind the changes. They reflected some of the reasons and ideas for the recent trends shown in modern industry and business strategy development: business process re-engineering as well as changes to the vertical structure of organisations based on processes of rationalisation, de-layering and downsizing. The key elements in the business strategies aimed to achieve improvements in product and service quality, redesign of work processes, a more flexible production system, cost reductions, and improvements in the employees’ skill level. Health promotion was not included as a main factor when this new business strategy was described.

Due to the deregulation and “the regulation regime” administered by the Norwegian Water Resources and Energy Administration (NVE), both the top-management and the union representatives identified cost reductions to be the main challenge in the restructuring process (NVE, 1999a; NVE, 1999b). However, the established industry culture was a major obstacle to achieving these reductions. The industry has always had a strong economy. Compared to similar industries income level were high and problems were often solved by buying-in new equipment or recruiting more people into the defined problem area. Being exposed to a competitive market brought about by the deregulation law made this problem solving strategy impractical.
Changes in work design

New cost pressures created a need to reduce personnel costs and to downsize. Eight companies out of the twelve studied offered early retirement packages, but none of the companies resorted to laying off staff. To reduce resistance to organisational changes amongst employees, both the public and privately owned companies within this study gave guarantees of employment to their staff up until retirement or for at least an undefined time period. To all the companies, however, downsizing was still a major method of reducing cost, and so recruitment freezes were often used to achieve these goals. This in turn created an unbalanced age composition and a need for work redesign. In seven out of eleven companies, the number of management levels was revised, and in about half of the companies the number of managers and supervisors was reduced. This was an overall trend in spite of the fact that several companies externally recruited new managers into new areas such as finance, trading, and marketing.

Changes in job content

Research activities in the 1990’s focused on the consequences of changes in technology and market conditions for work design and job content (i.e. Hammer & Champy, 1993; Sparrow, 1998) A stronger focus on the indices of quality, service, cost, and time in a deregulated market, leads to a greater interest in job-based flexibility, both numerically and functionally. Parker and Wall (1996) point to five common developments in job content, and our findings within the electrical energy sector can be grouped under the following headings: Increased relevance of operational knowledge, increased work dependency, more customer interface, and cognitive qualifications and a greater demand for social competence.

Operational knowledge
In the traditional bureaucratic organisation, the engineers did all the planning. They held the supervisory positions and instructed the workers on what to do and how to do it. Today, the employees do different kinds of work, get their work tasks from the computer and have to plan their own work, assisted by information found via the computer. An increase in operational knowledge may increase the control over the employees’ own work and reduce the dependency on experts. This, however, is dependent on the workers capability to obtain the necessary competency and skills.

Increased work interdependence
Up to 1991 there was no competition and no fluctuation in prices within the energy sector. Work teams could decide for themselves when to stop the turbines and do maintenance work. Nowadays a central operations unit follows market movements in prices and the decisions on when maintenance can be done are dependent on these marketing people and their projections. When work is carried out it needs to be done in a hurry - another new experience in this sector. The time pressures and working pace have increased. This trend is enforced by pressure on costs; a consequence of the market competition.

As opposed to requiring increased operational knowledge, increased work interdependence may reduce the individual’s control over the working environment. On the other hand, the increased importance of competence for core personnel may reduce the manager’s own control and increase the importance of other core personnel. The trend towards ‘flatter’ organisations may be a consequence of this development.

More dependence on customer interface
In the monopoly situation, there was only ever marginal contact between the customers and the employees in the energy companies. Today 30 % of the employees have direct customer contact and only 26% have no contact at all. Since the customers can now buy electrical energy from different suppliers, customer services and the reliability of delivery have become more important than ever before. From experiences in other market sectors we know that rising levels of customer contact increases job strain and the emotional pressures upon the workers.

Cognitive and abstract qualifications
For a very long time the necessary qualifications and experience for a job has been enough to enable employees to succeed in the energy sector. A supervisor (engineer) has always been available to help, telling the employees what to do (although not always telling them why). This has been a part of the operating culture in the industry. The shop-floor operators’ view has been "we do the job, they do the thinking. We are not paid to think". Nowadays, the supervisor is not always present, and employees have to plan and organise their own tasks. More often than not, the employees also have to use computers to do the job; to find their work tasks, communicate with their co-workers and report on what has been done with what kind of resources.
Increased demands on social competence

The engineers have dominated the energy sector, and so the work culture is heavily coloured by their thinking and norms. Except for the class differences between this group (managers were always engineers) and the operators, energy sector employees have been a homogeneous group with regards to background and work tasks. The need for advanced social competence was not very high.

Now, different new employment groups are recruited: marketing people, financial experts and many more women (still only 19% in the whole industry). This has created a melting pot of backgrounds and a place of reconstruction and vigorous mixing, increasing the levels of conflict and the need for social skills. All the employees need to co-operate and get along with people of different genders, backgrounds and cultures. The need for greater social skills has also increased as a result of mergers and buy-ups within the industry.

Change competence

The new work situation seems to have resulted in a heavy demand for the acquisition of new competencies. Top managers and human resource managers have reported gaps in the areas of theoretical competence, customer service skills and management techniques. However, only 13% of the employees report that they felt under-qualified for the job they were doing. Only 5% perceived themselves as overqualified. In spite of the changes in the sector only 9% planned to take on further education in the years to come, and only 6% thought it probable that they would seek a new job outside the company. In spite of the new situation only 10% of our sample perceive a high level of job insecurity. This might be explained by the job guarantee the employees received up until now from their employers. In total these results may raise questions as to the changed competencies within the industry.

The energy sector has, up until now, been affluent, protected, and subject to very good working conditions. When this project started the energy sector benefited from lower stress levels, fewer health problems and less sick-leave days than those on average experienced by the wider Norwegian population. While 14% of the sample indicated that they had multiple and severe health complaints, 27% reported that their health was bad or very bad. A majority (52%) of respondents had experienced more than the average work environment problems, or a combination of subjective health problems and work environment problems. These figures can be looked upon as the improvement potential within the organisation.

Similarly, figures on lifestyle from the first survey illustrate the life style change improvement potential. Fortyseven percent of the respondents reported that they were in poor physical shape, and 40% of the respondents did not regularly engage in physical exercise. Twentythree percent of the respondents smoked and 22% perceived that their working life interfered with their family life. The family is traditionally seen as a private matter; however, the changes in job content and working environment have had an impact on the work/family interface.

Consequences on health promotion

The restructuring and changes in work design seem to have changed the work-places health promotion scheme. The main trend seems to be to integrate health promotion in business development projects. To illustrate this trend, a small energy company, Lofotkraft, is used as a case study.

Lofotkraft has about 100 employees. Due to deregulation and prescriptions from the NVE, they have had to cut costs in order to survive. An ‘efficiency project’ was undertaken, and action plans were developed. The efficiency project was defined as a business development initiative. New organisational structures, new strategies, downsizing, quality assurance and customer orientation were among the main goals. Health was mentioned as one of four main aims under the new strategy of the company. In the rest of the action plan, however, health or the work environment was not mentioned. In the post project evaluation, the resulting effect for health was listed as the introduction of Occupational Health and Safety Weeks within the company for the coming year.

Low priority for health promotion need not be a necessary consequence of the changes in working life. Business development projects may represent new meeting arenas for collaboration and health promotion. The problem for this organization seemed to be a lack of the necessary willingness or consciousness to give priority to occupational health and safety and to put health promotion on the agenda in all established projects. The project’s management and participants often defined questions on health and the work environment to be outside the scope of business development projects.

In all the companies, however, the unions were an active part in negotiations on the restructuring, but the health and safety committees, regulated by Norwegian law, were very often ineffective in the restructuring processes. There seemed to be a trend connecting the technical aspects of health and safety and the process of acquiring and training workers in the use of new equipment.

In line with the literature, respondents in this study report a sense of increased control, empowerment, direct participation, and continuous improvement. Forty percent of respondents reported having had an increase
in job responsibility within the last three years. About the same percent of respondents also reported an increase in work intensification. Due to the increased empowerment, the individual employee seemed to become more responsible for his or her own health and learning. There seemed, however, to be an imbalance between the demands on qualifications and the available skills in this field.

The values of a healthy lifestyle and the willingness and insight to improve working environments and the learning climate did not always appear to exist. The opportunities for health promotion that were built into the new work designs were seldom evident.

Conclusions

Some of the major challenges in working life seem to be to improve the knowledge and acceptance that there are no quick fixes. If health promotion is integrated into business development, health and wellbeing should not be defined as reducing risk exposure, but as the development of competencies, skills, will and ability to take responsibility for the health and well-being at the individual and organisational level. A good work environment that protects individuals from physical and mental stress should not be a right to fight for, but a precondition that ensures that the employees can do their very best work.

References


Turnover and Early Exit as Coping Strategies: A Five Year Study of Norwegian Hotel and Restaurant Industries

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Norwegian hotel and restaurant industries (H & R industries) are known for high turnover and early exit of workforce. The present study focused upon describing the rate of turnover and early exit from these industries, as well as identifying factors that contribute to these behaviours. Comparisons to other industries in the private sector were made. Archive file data from the Ministry of Health and Social Welfare, and interview data were combined to clarify these issues. Results showed that the entrance of new employees to the H & R industries were 100 % higher than in the comparison groups, as were the risk of leaving the industries for alternative ones. Exit to unemployment, sick leave and disability pension was higher in the H & R industries. Recruitment patterns, organisational culture and working conditions contributed to these behaviours.

Introduction

High turnover rates and early exit from the workplace is a problem for the Norwegian hotel and restaurant industries (H & R industries). The workforce complains about low wages and poor working conditions. No previous studies have so far been undertaken in Norway regarding the turnover and exit issues. The issue is raised in popular articles, and generally regarded as a major obstacle to organisational effectiveness and economical pay-off in these industries by textbook authors (e.g. Woods, 1998), as are the issues of working conditions. One major Norwegian study (Andersen, 1998) showed that hotel employees complain more about psychological stress compared to industry workers, although far less than service workers (teachers and nurses) in the public sector (Mykletun & Mykletun, 1999). According to Andersen (1998), the problem factors related to work included poor communication with managers and between departments, conflicts and lack of support within own group, and uneven work pressures. Mykletun & Mykletun (1999) reported stressors grouped by factor analysis into three factors: I - Uncertainty, lack of communication, conflicts between own and company’s ideology, lack of esteem, and conflicts with leadership and colleagues; II - Work / home interface problems, and problems related to the institutional policy, and III – Too heavy quantitative and qualitative workload.

High turnover and early exit could therefore be a coping strategy as response to what is perceived as poor working conditions. However, it could also be part of a work culture, or caused by recruitment strategies. The present study was undertaken to gain descriptive knowledge regarding the actual rate of turnover and early exit from the H & R industries. Moreover, attempts were made to identify factors that contributed to these behaviours, including characteristics of the recruitment procedures. Other industries in the private sector were used as comparison groups where possible.

Methodology

Data were collected in two ways. First, data from the KIRUT (Archive files administered by the Social Security System, Ministry of Health and Social Welfare) was analysed separately for the workforce in the H & R industries and the remaining workforce in private sector. Comparisons were made with regards to personal background and education, previous work, and episodes of unemployment, illness, and disabilities. A time span of five years was used in the analyses.

Data was also collected by interviews and focus group discussions. Interviews were conducted with workforce and managers at various hotels and restaurants. Focus groups were made separately with managers from different organisations and with representatives from the labours’ union. The sample was not randomised. The aim of this part of the study was to capture the ways in which managers and employees perceived their roles, careers and working conditions. These data was used to gain a deeper understanding in the processes underlying the flow of workforce through the H & R industries.

Results

Foremost, the results showed great differences between the H & R industries in almost all parameters analysed. Compared to other private sector industries, the workforce of the H & R industries was much younger, mainly female, included twice as much ethnically non-Norwegians, had shorter education, more were students, and more worked part-time.

With regard to recruitment, 25 % of the workforce of the Hotel and Restaurant industries each year are newcomers. This compares to 12 % of newcomers in other industries in the private sector. The recruitment
procedures reproduced the existing structure of the workforce, regarding background, age, gender, ethnicity and competence. Compared to the other private sector industries, the H & R industries recruited more employees from other service industries (retailing, transport etc) and fewer employees from production work and from the public sector. Both groups were equally recruited from the pool of workforce that were either unemployed or students. Some newcomers to the industry regarded their work contract as a kind of “flirt” that was not going to last for a long time. It was more conceived of as a “personal project” that was to be carried out in a series of other projects of a somewhat similar type. On the other hand, this was also the attitude of some employers. One of the managers stated that:

“In my hotel, no employee should stay after the age of 25, and by no means more than five years”

One of the employees stated that:

“They do not like grown up ladies here. They prefer young and beautiful and naive girls at this place”

The risk of leaving the H & R industry was twice as high than in other industries. This tendency remained over the five-year span of the study. Younger employees, ethnic Norwegians, unmarried employees, and highly educated employees including students working part-time along with their study programme were most at risk for leaving the industry. However, the elderly workers (40+) argued that there was no room for people of their own age in the hotel and restaurant industries. They felt odd and socially isolated among all these young workers, and they received suggestions that they ought to leave work due to their “old” age. Statements were made:

“The man who worked here before me had stayed here for ages. He was really old when he left - he was 41 years old”

“It may be possible to work with some colleagues at the age of your own children, but no way when you, with regards to age, might be the grandmother to most of the workforce”

“Some of the jobs definitely requires younger employees, for instance working in a nightclub for young people in their early twenties. A senior employee would appear strange in such an environment”

The recruitment advertisements requested mainly younger applicants. Most advertisements only requested applicants with a minimum of qualifications. The exception was the chef positions, were experience and skills were highly valued. Apart from the chefs, formal training required was either not expressed or held at a low level. The managers mainly expressed preference for younger, inexperienced workforce that could be shaped according to the need of the particular job offered. They complained about senior workers being more difficult to handle, demanding more from the work and from the manager. However, the negativism developed rather fast in some instances:

“After a month they know exactly how things should be, and you can no longer tell or teach them anything”

Competence issues also appeared in another interesting manner. Some of the workforce suggested that lack of training and learning opportunities were the reason for applying for new positions. Generally, the managers were reluctant to offer training to their employees, because it might be a waste of money:

“As soon as I have taught them my skills, they will leave and open a restaurant on the other side of this street”

Quitting the old job and moving to a new place could provide learning.

Service industry work implies shift-work, working late hours, and/or working weekends. Some of the respondents argued that this is incompatible with normal social functioning, including having a family life. Thus, working in the H & R industries may be an option for a student to make additional money, or for young and single workers to enjoy social interaction at work. However, in the long run, it may not fit well into the expectations that young people hold about working life.

The H & R industries caused a higher relative proportion of exits from working life than the comparison group. Exits were mainly to either unemployment, or sick leave and disability pension. The risk of exit from working life along these lines increased with age. While no differences were found between H & R
industries and the comparison group for workers aged 24 and below, significant differences were found for groups aged 25 to 40, and especially 40 +.

**Discussion and conclusion**

The results show clearly that the H & R industries differ from other private sector industries in Norway with regard to their workforce. This applies to the structure of the workforce (age, gender, level of education, ethnicity, use of part-time employment, recruitment procedures), the turnover pattern and the exit rates (unemployment, sick leave and disability pension). The results support the hypothesis of turnover and exit as coping strategies in response to a sub-optimal working environment. Mainly, this conclusion relies upon the observations of the relatively higher amount of workers leaving the H & R industry with sick leave, disability pension and unemployment. Also, the findings related to lack of training and to perceived problems of working late evening and night hours support the idea of turnover as a way of coping with working conditions that are sub-optimal.

However, the results also indicate other, competing explanations for the turnover issue. The workplace culture seems to imply that you should not stay too long in the same workplace, and not too many years with the industry. The low age levels in the workforce indicate that there are some social norms indicating that you should leave before you enter the group of “elderly workers”. The border for the group of elderly is not clear, however, it seems to be below the age of 40, although differences are to be found between different workplaces. In this respect, turnover may be seen as a coping strategy against the workplace culture, which seems to hold negative attitudes to the stable and the elderly workers. This might also apply to the relatively higher rates of exit to unemployment, sick leave, and disability pension, although this is not evident from the present findings.

Finally, the results also indicate that the procedures for recruiting workforce may lead to higher turnover. This is clearly so for the students holding part-time positions, and who never thought of making a career within these industries. High turnover might also be expected when recruiting among younger age group of the workforce. Of these, quite a few are just looking around to find their place at the labour market. The tendency to define a job as a short-time personal project, and not as a lifetime career, is found among these youngsters. In these cases, turnover and exit should not be regarded as a way of coping with stressful working conditions.

In conclusion, turnover and exit to unemployment, sick leave, and disability pension may be a way of coping with harsh working conditions in the H & R industries. However, other explanations compete with our main hypothesis. High turnover may be a result of recruiting a young workforce, and part-time working students that will leave for work with other industries after their exams. Turnover between different H & R organisations may also be seen as a way of coping with a frustrated need of learning and personal development that is not offered by a single employer. Turnover to other occupations before the age of 40 may be seen as coping strategy in relation to an industry culture that does not favour elderly workers.

**References**


Interventions to Improve Occupational Health and Work Environments. Why Many Well-intended Interventions in Research and Practice Fail.

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Much effort has been invested in finding “the best” intervention to improve occupational health and work environments. These interventions can be of an individual nature (e.g. more training) or directed against the organisation of work (e.g. greater variation of tasks). However, very few successful examples of well functioning interventions can be found in the literature (see e.g. Burke, 1993; Karasek, 1992; Landsbergis & Vivona-Vaughan, 1995; Parkes & Sparkes, 1998; Reynolds & Briner, 1994). Instead it has been argued that many of the interventions implemented turn out to be unsuccessful (Briner & Reynolds, 1999), but these are seldom reported in journals or elsewhere.

In the present paper we have tried to go deeper into some of the reasons why success is so hard to gain. There is a long list of reasons why most efforts to do good intervention studies fail. The following problems have often been mentioned (e.g. Burke, 1993; Handy, 1988; Reynolds & Shapiro, 1991; Briner & Reynolds, 1999):

- Weaknesses in research design (particularly the scarcity of longitudinal studies, use of control groups and randomisation)
- Unclear links to theoretical models
- Excessive emphasis on intervention at the level of the individual employee
- Inappropriate data analysis strategies
- Inattention to the effects of differences in intervention processes
- Insufficient recognition of contextual differences
- Little control over extraneous variables that represent potential sources of variance
- Differences in ideological, theoretical and methodological frameworks and standpoints between the contributing disciplines

In order to overcome some of the methodologically oriented problems in intervention research undertaken in the working life, field experiments have been recommended to increase ecological validity. Field settings require strong justification, pilot-testing, negotiations, contingency plans, and education of participants among other things to avoid validity threats (Conrad & Conrad, 1994). Field settings can therefore teach us more about the complicated processes involved when interventions are introduced and implemented in organisations.

In one of our own intervention studies (Saksvik & Nytrø, 2001) we found how difficult it can be to have control over the field setting. The content of the intervention we studied, was an extension of self-administered sick leave from 3 to 5 days. Although the control group and the intervention group worked in separate units in the company, participants in the control group were fully informed about the intervention. We interpreted an overall 50% increase in 1-3 days sick leave in the control group in the intervention period as a “compensation” for not being able to benefit from the 5 days option in the intervention group. The increased sick leave could be understood as a subversive reaction to the “unfairness” of not having been offered this opportunity. ‘Resentful demoralisation’ or ‘compensatory rivalry’ (Cook & Campbell, 1979) may have

3 The social welfare system of Norway has since 1978 contained the possibility for employees to take up to three days of sick leave up to four times a year without consulting a physician to obtain a medical certificate.
occurred, i.e. those individuals, groups or parts of an organisation that are not involved in the interventions will regulate their behaviour so as to benefit from the intervention according to their interests.

Methodological limitations of this kind will always be present in intervention studies, but based on our own research efforts and a literature review we found that the greatest possibilities for improvement for both intervention research and social practice for the working life interventions can be found in more systematic knowledge about the processes part of interventions. We identified four issues as essential and often underestimated when conducting interventions.

1. The establishing of a social climate of learning from failure

There are probably as many opportunities to learn from organisational failure as from organisational success, but there appear to be strong cultural, social and psychological prohibitions against harvesting wisdom from failure. Sitkin (1996) has put a strong case for organisations to be more open to the possibilities for renewal offered by learning through failure. If the idea of experiential learning is taken seriously (Kolb & Fry, 1975), it is imperative for organisations that survive failed change efforts to analyse and document the reasons for failure so that future change projects can profit from past experience. Argyris (1990) claims that cynicism and scapegoating are more likely outcomes of organisational turmoil than fresh insights into organisational dynamics or improved problem solving abilities. In efforts to develop new ways of behaving and communicating in organisations, it is advisable to withhold sanctions for making errors – both at the individual and the organisational level.

It could be argued that there is another equally convincing explanation for not taking failure into consideration, namely that the types of intervention that are commonly promoted in the management consulting literature are doomed to failure because they misunderstand organisational problems, are manipulative and designed to assert managerial control or intensify work (Reynolds & Shapiro, 1991; Reynolds & Briner, 1994).

2. Provide opportunities for multi-level participation and negotiation in the design of interventions

In our own research (see e.g. Mikkelsen and Saksvik, 1998; Dahl-Jørgensen, Forseth, Mo & Saksvik, 1999) we have taken the point of departure from the so-called ‘Scandinavian paradigm’ which is a research tradition based on participation and workplace democracy. Interventions designed and conducted by experts outside the company will often suffer from lack of involvement from significant stakeholders. In some important research traditions such involvement is considered the key factor behind change and learning in organisations. In the literature on participation, dialogue and workplace democracy (Coch & French, 1960; Elden, 1983; Gustavsen, 1992; Thorsrud & Emery, 1972) change and improvement can be obtained when the employees take an active part in the process of change and when change is based on their perspective (“local theories”). Increased participation by all employees in identifying and solving problems is seen as a key factor for establishing long-lasting improvement. Also in the stress literature involvement in the form of increased control over the work situation is often mentioned as a significant variable (see e.g. Hurrell & Murphy, 1996; Israel et. al., 1989; and Landsbergis and Vivona-Vaughan, 1995). A third tradition that focus on involvement is organisational learning theory where the employees by organisational inquiry learn and create qualitative improvements in the performance of organisational tasks and in the value system of the organisation (Argyris & Schön,1996; Fiol & Lyles, 1985).

Even interventions as apparently simple and uncontentious as the introduction of exercise, dietary or stress management programs during working hours may produce conflict over the value of the intervention in the existing organisational context. Employees might, for example, question why they should have to strengthen their capacity to cope with the stress created by their work when they see that little is being done to redesign jobs or they observe a deliberately intensification of work. When, as is often the case, the subject of work organisation is excluded from collective bargaining, explanations for health problems at work are dominated by a management perspective which focuses heavily on the individual employee’s behaviour and capacity to cope. Managers generally have a preference for supporting individual level interventions, such as employee assistance programs and stress management training, and are much less likely to support organisational changes aimed at reducing the organisational sources of stress (Murphy, 1989; Reynolds & Briner, 1994). They avoid issues concerning power, autonomy and work organisation that are critical factors in understanding the development of occupational illness (Bohle & Quinlan, 2000).

In one of our own studies it was found that the “same” organisational intervention was implemented in quite different ways in two post offices (Mikkelsen & Saksvik, 1998). The reason for its ineffectiveness in one post office was found in the prevailing organizational culture where it was seen to be part of the job of the manager to solve the problems and the employees felt it was their proper role to sit in judgement and complain about the lack of effort. Thus, little involvement in developing action plans was found from either the manager or the employees in this post office, while in the other the “local theory” (Elden, 1983) was based on cooperation, common interests and continuous improvement. A fundamental step in many intervention programs may therefore be to educate managers and employers about the complex mechanisms behind development of
stress and illness at work and to convince them of the importance of employee participation and preventive intervention at the organisational level.

3. Awareness of tacit and informal organisational behaviour that undermine the objectives of interventions

Putnam (1994) has observed that many initiatives taken in organisations lack clear psychological reasoning, and subsequently, the ill-informed managers and workers start inventing their own idiosyncratic justifications for change from their own locally bound perspectives. Novel insights may create frustrations, superstitions, and norms that unintentionally support dysfunctional behaviour and even resistance to change (March & Olsen, 1975; Pfeffer, 1981). Schein (1985) argues that an organisation has to have a high level of competence in managing change processes to utilise the full potentials of an intervention. The inclination to revert to old ways of doing things and seek organisational inertia is always tempting and must be dealt with in times of stress (Laughlin, 1991). Argyris (1990) claims that supervisors request information that is general, prospective, and “objective” in order to make future decisions that are in alignment with strategic goals and in the interest of the company owners. On the other hand, many subordinates require information that is concrete and emotional and deals with the situation here and now. Tacit or overt resistance to organisational renewal exhibited by a handful of informal leaders, can in the worst case lead to active subversion of the intervention by what he calls the “underground management” (Argyris, 1990). In launching organisational change projects, Smith (1994) considers that the first major phase consists of five small indispensable overlapping steps: Telling, selling, testing, consulting and co-creating. These steps require employee involvement and there is an inherent risk in the co-creating phase that project contents and goals will be modified by the participants, requiring modification of the initial plans that were perhaps laid out by top management or researchers.

4. Defining roles and responsibilities before and during the intervention period

In the literature on change management and health promotion in the workplace, it is often recommended that enterprises provide social support, build cohesive teams, re-design work and focus incessantly on organisational renewal (e.g. Cooper & Cartwright, 1994). Experience indicates that choosing competent persons with outspoken faith in the change project is advantageous for intended change to take place. Grossman and Scala (1993) have observed that health promotion and planned change in organisations involve a wide range of activities. They suggest these activities require the fulfilment of four roles:

1. The expert: This role should be held by an experienced person in organizational development and possess special skills in assessing working conditions (and health status) and also in providing advice concerning methods for both process and outcome evaluation. This role is particularly required at the commencement and termination of projects.
2. The advocate: This role must be filled by a person who can raise consciousness, convince, and motivate participants and help them to fully understand the scope of project activities and also be responsible for ensuring that these activities do not evaporate after the initial project optimism begins to dissipate.
3. The enabler: This role must be filled by a person capable of tracking the details of the change and recording progress and setbacks. It is a role suitable for persons who can work out various steps of the change program and who are persistent in adhering to the minutiae of the agreed upon procedures.
4. The change facilitator: This role overlaps to a certain degree with that of the enabler, but requires social skills and leadership abilities that can be utilised in developing autonomous work groups and building alliances across departments functional divisions.

Different change projects require different roles from both employers’ and employees’ representatives and different roles require different skills. Covin and Kilmann (1990) found that unclear allocation of responsibilities was an issue frequently reported to have a negative impact on the facilitation of large-scale change. The need for differentiation of roles in change projects is seldom discussed in the literature.

Conclusion

Our recommendation is to use more effort in future intervention projects to identify the important processes we have outlined above. A simple checklist can be of some use for those involved in the intervention. A checklist may contain the following items:

- What former experiences do we have with occupational health and work environment interventions?
- What kind of sanctions are normally used in our organisation when failure occurs?
- Who is in charge (i.e. has the means and power) to make sufficient changes?
- Are significant stakeholders involved?
Do the employees take an active part in the process of change?
Whose perspective (management, employees, experts) is dominating?
What is done to prevent resistance to change?
What is done to uncover tacit behaviour?
What kind of information is provided (general, prospective, concrete, emotional)?
Are all roles filled (expert, advocate, enabler, change facilitator)?

References


The aim of the present study was to identify central factors in the working life of operative staff in housekeeping departments in the Norwegian hotel industry. Focus group interviews with room-maids and cleaners in four hotels in Norway were conducted. The interviewees described their work as physically demanding, but problems related to social and organisational factors considerably overshadowed poor physical working conditions. Based on the interviews, broad areas of potential initiatives for improving the working conditions for operative housekeeping staff in hotels were proposed. As suggested in this paper, these initiatives may also contribute to cutting hotels’ overall costs.

Introduction

Hotel housekeeping staff perform cleaning, updating and basic maintenance of guestrooms and public areas of the hotel. Because of the gender balance in this kind of work housekeeping staff are often referred to as chambermaids or room-maids. The quality of the operative housekeeping staff’s work is likely to have a profound effect on guest’s comfort and the overall impression of the establishment. Despite this, housekeeping staff has been portrayed as the lowest of the low in hotel work, treated as a cheap and easily replaceable resource by employers, and often spurned by their fellow employees (Wood, 1992). The low status of housekeepers may in part explain the insufficient attention given to this group of employees.

According to Lashley (2000, p. 3) hospitality is ‘... a cluster of service sector activities associated with the provision of food, drink and accommodation.’ When reading hospitality literature with Lashley’s definition in mind it becomes evident that some groups of hospitality workers have been studied more extensively than others. Studies of hospitality industry workers have largely been concerned with food and drink service staff (waiters, chefs and cooks), and not those involved in accommodation service work (Lennon & Wood, 1989). So far, little has been written about room-maids and receptionists, and positions like maintenance staff, such as engineers and pool attendants, has been barely mentioned at all in the literature (Guerrier & Deery, 1998). Among the few exceptions are Shamir’s PhD thesis about receptionists and chambermaids (Shamir, 1975), Saunders and Pullen’s research on room-maids (Saunders & Pullen, 1988, in Lennon & Wood, 1989), Faulkner and Patiar’s (1997) stress research, and Terkel’s (1975) interviews, which included a receptionist and a hotel switchboard operator among others. The findings in many of the studies of food and drink service staff have, however, been generalised to the hotel and restaurant workforce as a whole (Wood, 1992). It is unlikely however that all of the conditions of and experiences from the working life of waiters, chefs and cooks are valid for receptionists, room-maids and maintenance staff. Even between different groups of accommodation workers fundamental differences in the nature of work exist. For instance Faulkner & Patiar (1997) found that there were more work related stressors in the case of front office staff than housekeeping staff.

Cleaning is often the main activity of operative hotel housekeeping staff. Much of the research on cleaning work has focused on physiological measurement and ergonomics. Such research, based on questionnaires, laboratory examinations and workplace studies, have characterised cleaning as heavy and physically demanding work with obvious risks of physical and mental problems (Krüger, Louhevaara, Nielsen & Schneider, 1997). Ergonomics may reduce some of these problems. Andersen (1997), however, found that efforts directed towards improving organisational conditions were the most effective when it came to reducing sick leave.

Methodology

For practical and financial reasons, the four hotels were selected partly on the basis of their geographical location. In some cases contacts and friends were used in order to obtain access to the organisation - an approach recommended by several authors (Bryman, 1988). Employees representing four medium to large sized hotels – the number of rooms in these hotels ranged from just under one hundred to about three hundred and fifty – in south-western Norway were interviewed. 13 focus group interviews, each interview lasting between 90 and 120 minutes, made it possible for a total number of 46 room-maids and cleaners to contribute to the present study. In one of the hotels kitchen personnel doing the dishes were formally members of the housekeeping department. These employees were not included in the interviews for two reasons: a) they performed a clearly
different task, compared to the ones of room-maids and cleaners, and b) this category of employees did not belong to the housekeeping department in all the hotels taking part in the investigation.

On most occasions the research group was represented in the interviews by three of its members. Seeking to avoid that interviewees feeling intimidated, there was no occasion when participant numbers fell below three. This way, the number of interviewers never exceeded the number of interviewees. The focus group interviews took the course of an everyday conversation around the subject of the interviewees’ working life, but, of course, involved specific questioning from the interviewers. Qualitative research interviews are technically semi-structured (Kvale, 1996), allowing the interviewees quite a bit of latitude in terms of what is being discussed. In the present study, the interviewers had put together a topic guide, but the interviews were conducted in a very open style. Instead of audio taping the conversations two of the interviewers took notes of what was discussed in the interviews.

The interviews served two main purposes: Firstly, the researchers wanted to collect data about the working life of operative staff in housekeeping departments in Norwegian hotels. Secondly, as interviewees and interviewers were to meet again in future parts of this research and development project, presenting the essence of the project plan and establishing personal contact was crucial. In this paper attention is focused on operative staff, but interviews with management were also conducted.

**Results**

Operative staff in the housekeeping departments described their work as physically demanding, but problems related to social and organisational factors considerably overshadowed poor physical working conditions. Some of the main themes that surfaced during the interviews were: working under time pressure, being under close supervision, language and family issues, being undervalued at work, not being involved in relevant parts of decision making, housekeeping staff’s familiarity with HSE (Health, Safety and Environment) regulations, pay and work hours, and different aspects of communication.

Most room-maids and cleaners described as the worst part of the job the fact that they were constantly pressed for time. Each room-maid was expected to clean a relatively large number of rooms (usually about 17 rooms) in a 7 to 7.5-hour shift. Permanent shortage of staff, or the more occasional sick leave, could force the room-maids to cover up to 35 rooms during the most hectic days. One room-maid described how she felt arriving at work in the morning and being told that she had to clean a large number of rooms (author’s translation as the interviews were conducted in Norwegian):

‘Your day is ruined before it has even started.’

(Room-maid).

In some of the hotels a ‘control culture’, where the executive housekeeper or the assistant housekeeper oversaw the quality and progress of the operative staff’s work, existed. Being under what many employees perceived as very close supervision contributed further to creating a stressful work environment.

Feedback from the executive housekeeper and the assistant housekeeper on how operative staff performed their job was largely negative, and room-maids and cleaners felt that management valued neither them, nor their work.

‘Don’t think I’ve heard them [i.e., the hotel’s executive housekeeper and general manager] say ‘thanks’, ‘thank you very much’ or ‘you’ve done a good job.’

(Cleaner with more than fifteen years of work experience with the same hotel).

The feeling of being undervalued at work was nurtured by the impression operative housekeeping staff in some hotels had of being less valuable than ‘front stage’ colleagues such as waiters and receptionists.

Differences between the four hotels existed, but in general communication with management was poor. Room-maids and cleaners discussed work related problems among themselves, but often failed to bring these issues to management’s attention.

‘If there’s a meeting we don’t say anything. We don’t dare to.’

(Room-maid)

The interviewees also gave examples of concerns that had been discussed with, or passed on to, the hotel management, but where nothing seemed to be done in order to deal with these issues. Employees reacted to this in two ways: a) they stopped passing on messages to management; or b) they kept on, but felt that they were nagging.

Co-operation and communication between operative staff in housekeeping and representatives from other departments within the hotel tended to be either problematic or non-existent. Some of the interviewees
clearly stated that they would like to improve their relations to other departments, while others seemed happy with the isolated existence of the housekeeping department.

Even though there were a high percentage of ethnic non-Norwegians among operative housekeeping staff in some hotels, the employees themselves claimed that mother tongue or differing levels of proficiency in the local language did not constitute a major problem. In two of the hotels the vast majority of operative housekeeping staff were immigrants. Social relations in the workplace were of particular importance to this group of employees, living in a foreign country with few, if any, relatives nearby. Most interviewees described the close relationship with colleagues in the housekeeping department, and perks offered by the chain the hotel was affiliated to, as the positive aspects of working as a room-maid or cleaner. One group of cleaners, who had worked together for more than fifteen years, made use of the sense of workplace humour they had developed together in a way that seemed like a coping strategy employed for dealing with stressful and strenuous work. The close relationship found among co-workers was, however, not solely positive. The interviewees stated that they often went to work even when they were really ill, as their sick leave would in most cases have lead to an increased workload on their colleagues. The sense of responsibility towards colleagues, as well as towards the hotel, was very strong among the interviewees.

Operative housekeeping staff showed frustration, as they were usually not invited to participate in the decision process before hotel refurbishment was initiated. Decisions were sometimes made by the chain’s head office, and local voices were not listened to. In one hotel management had promised to act upon operative housekeeping staff’s requests, but the promises were broken. This lead to construction or furnishing solutions that complicated the work of room-maids and cleaners.

There was some confusion when it came to pay and work hours. A couple of hotels employed room-maids on a fixed-hour-fixed-salary basis, at the same time as the room-maids who were remunerated for every room they cleaned in addition to the fixed number of 17 rooms. As a result of this, many employees did not know whether they were employed on fixed hours, or worked on a piecework contract with flexible hours. A third hotel, at least from the way it was presented by the interviewees, seemed to employ remuneration practices conflicting with Norwegian law.

When talking about their personal safety in the workplace, most interviewees said that sexual harassment from guests was not a big problem, but this may have been underreported because of the group interview setting. Some of them, who had experienced such incidents, said that they were afraid of working alone. Housekeeping staff’s familiarity with HSE regulations was relatively weak, even regarding matters that complicated their job.

The ‘silent’ as well as the ‘open, non-committing’ milieus Andersen (1997) described can easily be identified in the interviews this paper is based on. Andersen (1997) also found that efforts directed towards improving organisational conditions were the most effective when it came to reducing sick leave. This paper neither supports, nor opposes his findings related to sick leave. It simply suggests that in relation to their job operative housekeeping staff in Norwegian hotels are more concerned about organisational and social conditions than they are about physical factors. Critics may say that the findings are the result of a group of researchers preoccupied with organisational and social factor ideas. Maybe, but organisational and social factors were what the interviewees talked about in these open interviews. Several of the main negative issues brought forward by the interviewees are comparable to the sources of stress identified by Faulkner & Patiar (1997).

The number of employees in housekeeping is often large compared to that of other units within the hotel and, hence, the housekeeping department’s labour costs become a very visible expense for the hotel. In Norway, as in many other countries where labour costs are high, costs related to personnel issues such as for instance sick leave and personnel turnover are also high. A recent report (Hem, 2000) shows that on average one-day’s sick leave costs Norwegian business and industry NOK 1,700 (approximately £120 at today’s exchange rate) in addition to sick pay. In this case, efforts aimed at reducing personnel related costs clearly become one way of cutting an organisation’s overall expenditure. This should be of particular interest to Norwegian hotels, as their housekeeping department not only have a large number of employees, but usually also have the highest percentage of sick leave in the organisation. It is important, however, to remember that efforts aimed at reducing sick leave are often associated with costs. Usually in terms of the personal contribution made by employees and management, as well as economic outlays resulting from, for instance, hiring external consultants or taking personnel out of the production.

For the purpose of later defining appropriate efforts for organisational intervention, a number of areas where initiatives for improving the working conditions for operative housekeeping staff in hotels could be developed were proposed. This was done on the basis of information obtained from the interviews, and the areas were (listed in random order):

- Organisation of work

Discussion

This section will be rather brief, as an extensive discussion is beyond the scope of this paper.

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For the purpose of later defining appropriate efforts for organisational intervention, a number of areas where initiatives for improving the working conditions for operative housekeeping staff in hotels could be developed were proposed. This was done on the basis of information obtained from the interviews, and the areas were (listed in random order):

- Organisation of work
• Communication
• Following up personnel on sick leave
• Room quality (work tasks)
• Training
• Cooperation with other departments
• Status and equality
• Strengthening the social relationship between colleagues
• Stress and bustle

Some of these areas are general, while others are more specific. Any attempt to apply specific initiatives from one or more of the suggested areas will require careful planning and thorough knowledge about the organisation in question. The importance of being sensitive to local cultural and social conditions has been stressed (Humphreys, Berkeley & Jovchelovitch, 1996), and universal solutions to organisational intervention are unlikely to be successful.

Conclusion

There are few studies of accommodation service workers in hotels. The aim of the present study was to identify central factors in the working life of operative staff in housekeeping departments in the Norwegian hotel industry. Through a number of focus group interviews with room-maids and cleaners it became clear that problems related to social and organisational factors in the workplace considerably overshadowed poor physical working conditions. Problems related to communication were common, and the ‘silent’ as well as the ‘open, non-committing’ milieus Andersen (1997) described were identified in this study as well. Further, the interviews revealed that among what this group of employees found to be problematic were issues related to: working under time pressure, being under close supervision, being undervalued at work, and not being involved in relevant parts of decision making. Housekeeping staff’s familiarity with HSE (Health, Safety and Environment) was relatively weak, and there was some confusion associated with pay and work hours. Positive aspects of working as a room-maid or cleaner were the close relationship with colleagues in the housekeeping department, as well as perks offered by the chain the hotel was affiliated to. Several of the main negative issues brought forward by the interviewees are comparable to the sources of stress identified by Faulkner & Patiar (1997).

For the purpose of later defining appropriate efforts for organisational intervention, a number of areas where initiatives for improving the working conditions for operative housekeeping staff in hotels could be developed were proposed. These areas have the potential for improving the working environment for operative housekeeping staff, but will have to be developed further, and in more detail before they can be applied. Organisational efforts based on the suggested areas are not likely to be free of cost, but are potentially economically sound for the organisation.

References


How to Implement and Assess the Effects of Occupational Health and Safety Interventions - the Use of Program Evaluation as Design.

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Normally, when implementing and evaluating occupational health and safety (OHS) programs in organisations there are problems to make valid inferences and establish clear-cut cause and effect relations. The program evaluation method could be applied to strengthen the inferences from quasi-experiments and evaluation studies in complex settings. Here the use of sub-objectives works as linking variables that are instrumental to the outcome of interest and could be modelled in causal chains. The design from two studies will be discussed as an example of the method.

Introduction

The traditional design when implementing occupational health and safety (OHS) programs is to test one or two independent variables at a time and to pursue causal relationships with some important outcome, with the experimental design as an ideal. Also, the primary target of intervention is usually the individual worker whose beliefs, attitude, behaviour or physical health status are the dependent variables. An example is to enhance the worker’s health protective behaviour through education. One of the problems connected with the evaluation of OHS interventions is how to define simple and clear-cut cause and effect relations. Due to the fact that the implementation occurs in complex and dynamic organisational systems, the use of single effect metrics results in weak and fuzzy inferences. The exclusive focus on the individual worker ignores the power that interacting organisational factors may exert on the individual. Still, the relation between cause and OHS effects has to be defined and some kind of quasi-experimental desirable. It seems that research in field settings demands a flexible evaluation strategy.

By employing a program evaluation technique, the difficulties in establishing causation could be controlled. Here, evaluation is interwoven with the process of implementation. The main components in the method are 1) the problem, 2) the activities, 3) the outcome of interest and 4) the sub-objectives (Mohr, 1992). The activities are based on some already established “program theory” that states that the program activities will have certain specified outcomes. The problem is directly related to the outcome of interest. The problem is defined to a given program as some predicted condition that will be unsatisfactory without the intervention of the program, and satisfactory, or at least more acceptable, given the program intervention. This problem orientation guides the evaluation on the kind of outcomes that will lend it strength and influence. In short, the program evaluation method in suitable is settings where the course of events is complex but possible to decompose in sequences of rather strong cause and effect relations. Here the use of actions and sub-objectives can be mapped as a causal chain reaching the outcome of interest. This decomposition is not always possible, so the method is not a universal solution to the problem of evaluation.

The use of sub-objectives gives a conceptual basis for the implementation and is a guide to identify the necessary actions. A sub-objective is an outcome that must be achieved before some further outcome may be achieved, that is, instrumental achievements in reaching the outcome of interest. Modelled as an outcome-line, different interventions yielding different sub-objectives generate an implementation structure, i.e. pattern of possible factors that must be addressed for effective implementation. As the implementation proceeds over time, data from multiple indicators are collected.

One important problem from this kind of evaluation is the question of generalisation. There are two kinds of evaluation, the formative and the summative. The summative evaluations result in information only on bare simple impacts, e.g. a statistic such as a difference of means or a regression coefficient that quantifies the effect. This kind of evaluation does not give any information on why an OHS program worked or not, or on how a weak program could be straightened. In contrast to the summative evaluation, the formative approach gives more information about how to improve or "form" the program itself. Here three relations are of interest: a) between the activities (T) and the sub-objective (S), b) between the sub-objective (S) and the outcome of interest (Y), and c) between the T and Y. The last is the standard summative relation which seeks to answer the question "Have the activities affected the outcome?". The first two are the two component links of this relation, operating as a causal chain in which the sub-objectives appear as linking variables.

There is a program logic as well as a validation logic to the method of sub-objectives. The validation logic says that if the T-S and S-Y links are both causal, the T-Y relation is casual as well. The program logic
says that if we know the S affects Y, then we need only implement some T that affects S to have an impact on
the desired outcome. The technique of sub-objectives strengthens the internal validity and thus, the inferences
from the study. Process indicators point out whether and how a program ought to be changed.

As illustrative examples, data from two studies will be presented. In the first study, the
implementation concerned a method for overarching control of the working environment. In the second study,
a method for assessing chemical exposure is presented.

In the former case, the sub-objectives were to create a) an understanding of b) positive attitudes to,
and c) implementation of, a method for systematic control of the conditions in the working environment within
companies in the wood industry in Västerbotten, Sweden. The outcome of interest was an enhanced working
environment. As the evaluation was conducted as an action research project, all contacts with the companies
were regarded as interventions and included in the evaluation design. In order to create an understanding of the
method, a questionnaire was distributed to the employers with questions regarding existing working
environment. The questionnaires were followed by an inspection of the work environment by The Labour
Inspectorate in Umeå, which aimed at broadening the understanding of the method. The next actions were
interviews and inspection messages from The Labour Inspectorate. The different indicators of reaching the
sub-objectives were answers to a survey investigating the working environment, spontaneous questions from
the employers on how to answer the survey, and results from an interview with employers investigating the
attitude to the method of systematic control of the working environment.

The evaluation of the method for assessing chemical exposure was conducted in the same general
design. In order to implement the method, an understanding of the foundations of exposure and a positive
attitude to the method had to be achieved before the outcome of interest could be reached. This project was
also conducted as an action research study. The actions were: The preliminary contact with the companies
(sawmills in Västerbotten, Sweden) personal visits to the mills, the administration of measurement devices,
measurement results to the worker and managers, interviews and inspections of the work environment by The
Labour Inspectorate. The indicators were: Understanding of the dose-response relation, a positive attitude to
the method and performed measurement, i.e. that the method was actually used and implemented in the
organisation.

References

Workplace Bullying among Professionals: Prevalence, Risk Groups, and Gender Differences

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The aim of this paper is to analyse the prevalence and forms of bullying among professionals. A cross-sectional survey study was conducted among business school graduates and the results showed that 8.6% had been bullied during the past 12 months. Employees in lower hierarchical positions, e.g. managers and experts. Furthermore, women reported more bullying than men did. Furthermore, the results indicate that there are differences in how and by whom men and women are bullied.

Introduction

Workplace bullying is probably not a new phenomenon, but it is only during the past 15 years that it has begun receiving attention from both the public and from researchers. In the mid-1980s the concept of workplace ‘mobbing’, i.e. bullying, was introduced by Heinz Leymann (1986; 1987), a Swedish psychologist. Since then a number of studies have been undertaken in order to more precisely define the concept and process of workplace bullying (e.g. Leymann 1996), to describe the prevalence and forms of bullying (e.g. Einarsen & Skogstad 1996; Leymann 1992a; Rayner 1997), to identify personality traits and organizational factors associated with bullying (e.g. Einarsen, Raknes, & Matthiesen 1994; Vartia 1996; Zapf, Knoz, & Kulla 1996), and to analyze the consequences of bullying (e.g. Einarsen, Raknes, Matthiesen, & Hellesøy 1996; Einarsen & Raknes 1997; Leymann 1996).

Research has shown that bullying can have severe negative consequences both for the individuals and organizations concerned. At the organizational level, bullying has been shown to be associated with higher absenteeism, higher intent to leave the organization, higher turnover, and early retirements (Leymann 1996; Rayner 1997). In addition, it is time consuming, and may lead to suboptimal allocation decisions (e.g. Kräkel 1997). Furthermore, it has been shown that bullying can result in lower levels of job satisfaction (Einarsen and Raknes 1997), psychosomatic symptoms and physical illness (Einarsen & Raknes, 1997; Einarsen et al., 1996; Niedl, 1995; Zapf et al., 1996), expulsion from the labor market (Leymann, 1996), and in the most severe cases even suicide (Leymann, 1987).

The severe consequences associated with bullying emphasize the need to increase our understanding of bullying and the mechanisms behind it. In this paper bullying is defined as repeated and persistent negative acts towards one or several individuals, which involve a victim-perpetrator dimension and create a hostile work environment (c.f. Einarsen & Skogstad, 1996; Leymann, 1996; Vartia, 1996). This paper aims to contribute to the growing field of research by focusing on bullying among professionals, so far a relatively neglected group in bullying research. More specifically, the first aim of this paper is to measure the prevalence of bullying among professionals and to describe what negative acts professionals are subjected to and by whom. Furthermore, it is analyzed whether there are particular risk groups, with respect to for example age, sector, and formal position. In addition, gender differences are explored in more detail.

This paper continues with a short presentation of the method, including a presentation of the sample and the instruments used. Subsequently, the results are presented. In the last section, the findings are discussed and some suggestions for further research are made.

Method

Sample

The empirical study was conducted as a cross-sectional survey study and was limited to professionals. A questionnaire was distributed to 1000 members of Suomen Ekonomiliitto, a nation-wide professional organization for business school graduates. The respondents were randomly selected from the member register. However, three groups were excluded from the search; top managers, entrepreneurs, and those who were not presently active in working life (e.g. due to unemployment or maternity leave).

383 questionnaire were returned, of which 375 were usable. 57.1% of the respondents were females and 42.9 % males, with men slightly over-represented among those not responding. The age range was from 24 to 64, with a mean age of 39.2. Mean job tenure was 6.9 years, ranging from two weeks to 37 years. 97.6 % worked full-time. Most of the respondents were employed in private organizations (81.9%). As for formal position, 13.7% described themselves as belonging to management, 30.6% to middle management, 37% as experts, and 16.9% as officials/clerks.


**Instruments**

The questionnaire employed in the study included background information about the respondent and the employing organization, measurements of work-overload and perceived organizational politics, and measurements of bullying. In this study, measurements of work-overload and organizational politics were excluded.

The first part of the questionnaire consisted of questions concerning the respondent, the employing organization, and the work group. The background questions about the respondent included gender and year of birth. In addition, questions regarding the respondent’s position, tenure, and employment contract (temporary vs. permanent and full time vs. part time) were included. As for the employing organization the respondent was asked to indicate sector, total number of employees, and ownership (private vs. public). Two questions concerning the work group: size and gender ratio of the work group were included.

Two complementary methods were used to measure bullying, as suggested by e.g. Einarsen and Raknes (1997). Firstly, the respondent was asked to indicate how often he or she had experienced 32 negative and potentially harassing acts over the past 12 months. Secondly, the respondent was asked to classify him- or herself as bullied or non-bullied based on a short definition.

The 32 potentially harassing acts were primarily based on the Negative Acts Questionnaire (NAQ) (e.g. Einarsen & Raknes 1997, revised 2000). Some minor changes were made, for example questions that were not considered relevant for this particular group of respondents were omitted (e.g. practical jokes), some questions were combined into one (e.g. questions about being ignored), and some questions split into two (e.g. “insulting e-mails” and “other insulting written messages or insulting phone calls” as separate questions). In addition, two items were adopted from the Leymann Inventory of Psychological Terrorization (LIPT) (Leymann 1989): “Somebody causes you economic or material damages” and “You are physically isolated”. Finally, based on other bullying literature two additional acts were included: “Somebody tries to sabotage your work”, “and “You are excluded from social events”. For all the 32 acts the respondent was asked to indicate how often he or she had experienced them on a scale from 1 (never) to 5 (daily).

The final part of the questionnaire dealt with the respondent’s own perceptions of being bullied or not. Respondents were given a short definition of bullying and asked to determine themselves whether they had been subjected to such behavior and, if so, how often. For those considering themselves bullied there were follow-up questions regarding the perpetrator(s) and the duration of the bullying. In addition, all respondents were asked whether they had observed bullying at work during the past 12 months.

**Results**

**Reported prevalence**

Of the 375 respondents, 91.4 % reported that they had not been bullied during the past 12 months. 8.6% reported that they had been bullied at least occasionally or more often, and 1.3% had been bullied at least weekly. However, a considerably larger number were affected by bullying at least indirectly. Of all the respondents, 30% reported that they had witnessed bullying in their present workplace during the past 12 months. 4.7% reported that they had witnesses bullying at least weekly.

As for the 32 negative, potentially harassing acts, 23.1% reported that they had experienced at least one of them at least weekly during the past 12 months. Acts and behaviors directly related to the respondent’s work were reported most frequently. In particular, the respondents reported that information was withheld, which affected their performance (7.5%), that they were given tasks with impossible targets and deadlines (5.4%), and that they were given tasks clearly below their level of competence (13.7%). Several respondents also complained about being ignored; 5.1% reported that their opinions and views were ignored at least weekly, and 2.1% reported being excluded or “sent to Coventry”.

In addition, 1.1% of the respondents reported being shouted at or being subjected to rage or anger at least weekly, and 1.6% reported repeated reminders of past mistakes or errors. Some also reported having had rumours spread about them (0.8%) and false allegations made against them (0.8%). However, none of the respondents reported physical abuse of threats of violence, nor insulting comments about their religious or political beliefs on a weekly basis. A list of the most and least frequent of the 32 negative acts can be found in

**Duration of bullying and bullies**

Of those considering themselves bullied, the mean duration of the experienced bullying was 2.8 years, ranging from one month to 18 years. 62% were bullied by a single perpetrator, 24% by two perpetrators, and 14% by three or more perpetrators. In the majority of cases (58%), the perpetrator(s) were reported to be older than the victim, and only in one-fifth of the cases, (19%) younger. As for the formal position of the bully or bullies, supervisors were involved in 52% of all cases, colleagues on the same level in 39% of the cases, and subordinates in 19% of the cases.
Table 1. A list of the most and least frequently reported negative acts.

<table>
<thead>
<tr>
<th>Negative Act</th>
<th>At least weekly</th>
<th>At least now and then</th>
</tr>
</thead>
<tbody>
<tr>
<td>You are ordered to do work clearly below your level of competence</td>
<td>13.7%</td>
<td>67.1%</td>
</tr>
<tr>
<td>Information is withheld, which affects your performance</td>
<td>7.5%</td>
<td>61.6%</td>
</tr>
<tr>
<td>You are given tasks with unreasonable or impossible targets or deadlines</td>
<td>5.4%</td>
<td>68.9%</td>
</tr>
<tr>
<td>Your opinions and views are ignored</td>
<td>5.1%</td>
<td>73.4%</td>
</tr>
<tr>
<td>Your work is excessively monitored</td>
<td>3.0%</td>
<td>27.3%</td>
</tr>
<tr>
<td>You are systematically required to carry out tasks which clearly fall outside your job description</td>
<td>2.4%</td>
<td>16.8%</td>
</tr>
<tr>
<td>You are exposed to an unmanageable workload</td>
<td>2.4%</td>
<td>35.6%</td>
</tr>
<tr>
<td>You are ignored, excluded or “sent to Coventry”</td>
<td>2.1%</td>
<td>21.4%</td>
</tr>
<tr>
<td>You are repeatedly reminded of your errors and mistakes</td>
<td>1.6%</td>
<td>26.3%</td>
</tr>
<tr>
<td>You are shouted at or the target of rage or anger</td>
<td>1.1%</td>
<td>18.9%</td>
</tr>
<tr>
<td>Rumours and gossip are spread about you</td>
<td>0.8%</td>
<td>21.9%</td>
</tr>
<tr>
<td>Persistent criticism of your work and effort</td>
<td>0.8%</td>
<td>17.9%</td>
</tr>
<tr>
<td>You are subjected to false allegations</td>
<td>0.8%</td>
<td>9.1%</td>
</tr>
<tr>
<td>Somebody tries to sabotage your performance</td>
<td>0.8%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Somebody causes you economic or material damages</td>
<td>0.0%</td>
<td>1.1%</td>
</tr>
<tr>
<td>You are physically isolated</td>
<td>0.0%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Insulting comments about your religious or political convictions</td>
<td>0.0%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Physical abuse or threats of violence</td>
<td>0.0%</td>
<td>0.8%</td>
</tr>
</tbody>
</table>

Risk groups and gender aspects
Analyses were undertaken to explore whether there were particular risk groups and for these analyses the respondents were divided into bullied and non-bullied based on their own self-reports. However, χ²-tests and t-tests showed that for most of the background variables there were no significant differences (P<0.05) between different groups. For example, for age, sector, tenure, the size and gender proportions of the work group, the total number of employees in the organization, and ownership (private versus public) no significant differences were found between different groups.

However, χ²-tests revealed that two variables were significantly (P<0.05) associated with bullying, i.e. formal position and gender. Of those classifying themselves as managers, only 2% had experienced bullying during the past 12 months, whereas 8.8% of middle managers, 7.8% of experts, and 21.1% of officials/clerks had experienced bullying within the same time period. In addition, women reported more bullying than men did. 11.2% of the female respondents reported that they had been bullied at least occasionally, compared to only 5% of the male respondents. However, here it should also be noted that women were clearly over-represented among officials/clerks and under-represented among managers. Another gender difference that can be pointed out was that whereas 25% of the female victims had been bullied by subordinates, none of the males reported similar experiences.

In addition to reporting more bullying based on the definition of bullying, women also reported more instances of the 32 listed negative acts. χ²-tests showed that 8 of these items women were significantly over-represented (P<0.05) among those who had been subjected to the behavior at least “now and then” as compared to never. For example, more women than men reported being ordered to do work below their level of competence, being systematically required to carry out tasks outside their job description, being exposed to an unmanageable workload, or having their work excessively monitored. In addition, more women reported being ignored or excluded, being sexually harassed, or getting insulting e-mails. Furthermore, more women than men reported that someone had threatened to “make life difficult” for them.

Discussion
The present study showed that bullying is a widespread phenomenon in Finnish organisations. 8.6% of the respondents had occasionally been bullied at their present workplace during the past 12 months, and 1.3% as
often as weekly. What is more, as much as 30% of respondents had witnessed some sort of bullying during the past 12 months.

The lack of a commonly accepted definition of bullying and the different methodologies used to measure bullying make it difficult to compare different studies on bullying. However, the results of this study appear to be rather consistent with previous research. In a large-scale Norwegian study based on victim self-reports 1.2% reported that they had been bullied at least weekly, and 8.6% on some occasion during the past six months (Einarsen & Skogstad, 1996). Leymann (1992a) has estimated that approximately 3.5% of the entire working population in Sweden are bullied. The prevalence of bullying among professionals thus does not seem to differ from the bullying prevalence in the general population. However, it should be noted that some studies have revealed considerably higher prevalence rates, for example 10% among Finnish municipal workers (Vartia, 1996) and 13.5% among Dutch local council and health care workers (den Ouden, Bos, & Sandfort, 1999).

However, as for gender differences the present study contradicted previous Scandinavian studies. Whilst previous Finnish, Swedish, and Norwegian studies have reported equal prevalence of bullying among both sexes (Leymann, 1992b; Einarsen & Skogstad, 1996; Vartia, 1996), women reported considerably more bullying in the current sample. As for gender differences this study thus supports findings from German studies, where women have been clearly over-represented (Zapf et al., 1996).

Finally, it can be noted that formal position seemed to be a very important factor in explaining bullying. This also emphasises the power aspects of bullying. Although previous studies have stressed the perceived power imbalance between victims and perpetrators, few studies have been concerned with analysing how this imbalance is created. As demonstrated by the fact that some employees are actually bullied by their subordinates, the formal position of the victims can only partly explain the perceived power imbalance. Therefore, more studies on the construction of the perceived power imbalance are needed.

All in all, the negative consequences associated with bullying emphasise the need for more research on successful prevention and intervention strategies. However, in order to improve the chances of successful intervention, an increased understanding of the mechanisms behind bullying are needed. Therefore, all additional research on both personality traits and work environment factors that contribute to bullying should be welcomed and encouraged.

References


The Spatial Experiences of Homeworkers and Their Families: Implications for Work-Family Conflict

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The performance of paid work at home is a growing phenomenon. Despite the increased proximity of work and home, that accompanies this, little is known about homeworkers’ and their families’ experiences of work-family conflict. Research suggests that experiences of the work-family interface in homeworking households are influenced by spatial characteristics of the home and that this is gendered. This paper examines the relationship between homeworkers’ and their partners’ reports of spatial characteristics within the home (e.g., separateness and exclusivity of workspace), gender and work-family conflict.

Introduction

The significance of experiences of the work-family interface for occupational health is increasingly recognised (see, for example, Davidson & Fielden, 1999). Work-family issues are likely to continue to grow in importance in relation to employee well-being as a combination of social changes, demographic changes and changes in the nature of work is increasing the likelihood that people in Industrialised countries will face the dual demands of work and family (Lewis & Cooper, 1999).

Work-family conflict and well-being

There are a number of processes that link work and family role experiences (Greenhaus & Parasuraman, 1999), including work-family conflict, which result from “simultaneous pressures from both work and family which are mutually incompatible in some respect” (Greenhaus & Beutell, 1985, page 77). Work-family conflict is increasingly recognised as bi-directional, involving work’s interference with family and that of family’s with work (Frone, Yardley & Markel, 1997). It is important to distinguish between these two directions of work-family conflict because studies show that they are distinct constructs that have different antecedents and consequences (Kelloway, Gottlieb & Barham, 1999).

Although outcomes appear to be predicted by the nature and direction of conflict (Frone, Russell & Barnes, 1996; Kelloway et al., 1999) and other factors such as social support and coping (Marshall, 1997), research has shown that work-family conflict potentially has many consequences for employee well-being (Greenhaus & Parasuraman, 1999). There is considerable evidence that work-family conflict is associated with a reduction in satisfaction with work and family lives (Ayree, Luk, Leung & Lo, 1999; Frone, Yardley and Markel, 1997; Netemeyer, Boles & McMurray, 1996) and with reduced quality of work and family lives (Higgins, Duxbury & Irving, 1992). Work-family conflict also has the capacity to impact upon aspects of psychological and physical health. Research has shown a positive relationship between work-family conflict and somatic stress symptoms, depression, heavy alcohol use, exhaustion, use of medication and poor general physical health (Frone et al, 1996; Kelloway et al, 1999; Kirchmeyer & Cohen, 1999).

The changing work context and work at home

There is evidence that the nature of work is changing, and work-family research must take account of these contemporary changes (Lewis & Cooper, 1999). One such change is an increased tendency for paid work to be performed at home for all or part of the working week (Felstead, Jewson, Phizacklea & Walters, 2000). This is a particularly significant aspect of the new work context because research suggests that work at home is accompanied by blurred psychological work-family boundaries (Sullivan & Lewis, in press). Despite arguments that increased proximity between work and family may increase work-family conflict, little research has focused on work-family conflict in homeworkers (Standen, Daniels & Lamond, 1999). Furthermore, research on work at home has generally neglected the experiences of co-residents, whose home is also someone else’s workplace, and whose experiences form part of the homeworker’s context (Sullivan, 2000).

Spatial experiences of work at home

Homeworkers’ and co-residents’ psychological experiences of the work-family boundary are influenced by the arrangement and experience of physical space within the home (Sullivan, 2000). Homeworkers use space within the home in a variety of ways and work demands and negotiations with co-residents give rise to a number of spatial characteristics, including whether there is a separate workroom or space (exclusivity of workspace), how
frequently this is shared by members of the family, satisfaction with spatial arrangements, and perceptions of family conflict about space.

Research suggests that teleworkers do not all utilise space within the home for work in the same way. Some research has found that a high proportion of teleworkers have a separate, dedicated workspace (Huws et al., 1996), whereas other research has found the proportion to be as low as one third (Haddon, 1992). Furthermore, there is evidence that not all teleworkers choose to perform their work in the most secluded location available in their homes (e.g., Wikström, Lindén & Michelson, 1997), and many use rooms that are also used for other purposes (Haddon & Silverstone, 1993). There is evidence that, in some households, there may be a high degree of sharing of workspaces with other family members (Sullivan, 2000). The impact of the exclusivity and sharing of workspaces on work-family conflict in homeworking households is, however, not well understood.

Lack of a separate space can cause problems in time spent setting up and clearing away workspace, and also family conflict over mess or the use of equipment (Haddon, 1992), and problems with the work-family boundary (Hill, Hawkins & Miller, 1996). Work intruding into living space has been found to be perceived as a disadvantage of home-based work by a quarter of homeworkers (Sturesson, 1997). Receiving work-related visitors at home is another potential source of conflict for homeworkers and their families. Work colleagues and clients are brought into the home (in person and through use of the telephone) in a way that impinges on the freedom of other family members to make noise and act in a spontaneous and uninhibited manner (Wikström et al., 1997; Sullivan, 2000). It is not known what impact the perception of conflict and dissatisfaction over spatial issues has on work-family conflict.

The management of physical space in homeworking households tends to be gender-related (Sullivan, 2000); female homeworkers tend to have less access than their male counterparts to a separate, private workspace and this may make them more likely to experience work-family conflict. Gender may also influence these experiences of conflicts and problems over space, especially if gender has influenced the arrangement and use of workspace. Previous qualitative research (Sullivan, 2000) suggests that women may experience greater levels of conflict over space and lower levels of satisfaction about spatial arrangements. However, the role of gender in the relationship between spatial characteristics and experiences of work-family conflict is not well understood.

**Aim**

This paper aims to examine the relationships between homeworkers’ and partners’ reports of spatial characteristics (the separateness of workspace, the exclusivity of workspace, satisfaction with workspace, perceived conflict over workspace) and homeworkers’ levels of work-family conflict and perceived level of work-family balance. The impact of gender on these relationships between spatial characteristics and work-family variables was also examined.

**Method**

Defining homeworking and teleworking

The literature on work at home tends to differentiate between telework and other forms of homeworking by defining telework as using ICTs to link the worker and employer or client (e.g., Gillespie, Richardson & Cornford, 1995). The focus of this research is on the impact of work that is done in the home, and therefore there is little justification for excluding homeworkers who do not have ICT links from the sample. Therefore, in this paper, the term homeworkers includes both home-based teleworkers and non-teleworkers.

Evidence suggests that occasional work at home may be more common than permanent, official work at home (e.g., Felstead et al., 2000). Excluding from research anyone who spends a small or varying proportion of their working time at home, may exclude the experiences of many homeworking households. Therefore, this research will not preclude people who work from home on an occasional basis.

**Design**

A cross-sectional, questionnaire design was employed to collect data on spatial characteristics, work-family conflict, satisfaction with work at home and work-family balance.

**Sample**

The study utilises an opportunity sample of 97 couples, each consisting of a homeworker and their spouse or partner, which was obtained by snowballing. A variety of contacts, including employers and colleagues of people who work at home, media attention and the internet, were used to distribute questionnaires. Forty-eight couples consisted of a male homeworker and female partner and 49 couples consisted of a female homeworker and a male partner.

The homeworkers were generally full-time professional or skilled employees engaging in episodic homework and having done so for several years. The homeworkers performed a variety of jobs, which were
mainly professional or skilled jobs. Sixty-three percent of the homeworkers earned £20,000 or more per annum (gross). The partners were also generally professional or skilled workers, but they were generally working slightly fewer hours per week. Twenty-seven of the partners worked 30 hours per week or less. In 54% of households the partner worked at home as well. The women in the sample generally worked fewer hours and earned less money than the men.

The participants were from a broad range of ages with a mean age of approximately 40 years for both partners and homeworkers. The age of partners ranged from 20 and 65 years old and the mean age was 40. The homeworkers were aged between 23 and 66 and their mean age was 40. Fifty-four percent of participants had children living with them and 50% of those with children had a child under 5. The average number of children was 1.

Results
Relationships between the predictor variables exclusivity of workspace, sharing of workspace by family members, sharing of workspace by family members during work time, frequency of conflict over spatial issues and satisfaction with spatial arrangements for work at home and the criterion variables W→FC, F→WC and work-family balance were analysed by multiple regression. In order to assess the impact of gender separate analyses were performed for couples with a male homeworker and couples with a female homeworker.

Male homeworkers’ reports of work-family conflict and work-family balance are not significantly related to their perceptions of the exclusivity of workspace, sharing of workspace, conflict over spatial issues, or their satisfaction with spatial arrangements. They are, however, significantly related to some aspects of their female partners’ perceptions of spatial characteristics. Female partners’ perceptions of how frequently family members share the workspace are significantly negatively related to homeworkers’ perceptions of work-family balance (β = -.55, p = .01), but not significantly related to homeworkers’ work-family conflict. There is a marginally significant negative relationship between female partners’ perceptions of how frequently family members share the workspace while the homeworker is working and homeworkers’ reported levels of W→FC (β = -.43, p = .064). Female partners’ perceptions of sharing workspace while it is being used for work are also significantly negatively related to homeworkers’ perceptions of work-family balance (β = .42, p = .05). Although female partners’ level of satisfaction with spatial arrangements is not significantly related to homeworkers’ W→FC or work-family balance, there is a marginally significant negative relationship between their level of satisfaction and homeworkers’ reports of F→WC (β = -.30, p = .09). Female partners’ reports of exclusivity of workspace and of the level of conflict over spatial issues are not significantly related to homeworkers’ reports of work-family conflict or perceptions of work-family balance.

Female homeworkers’ reports of exclusivity of workspace and of spatial satisfaction are not significantly related to their reports of work-family conflict or perceptions of work-family balance. Female homeworkers’ perceptions of sharing their workspace and of sharing their workspace while working in it are not related to W→FC or to work-family balance. However, female homeworkers’ perceptions of how often the workspace is used by family are significantly negatively related to F→WC (β = -.34, p = .05). Their perceptions of how often the workspace is used by family while they are actually working in it has a marginally significant positive relationship with F→WC (β = .34, p = .07). Female homeworkers’ perceptions of conflict over spatial issues are not significantly related to their perceptions of work-family balance. However, there is a significant positive relationship between female homeworkers’ perceptions of the level of conflict and their reported levels of both W→FC (β = .53, p = .005) and F→WC (β = .39, p = .03). There are no significant relationships between male partners’ reports of levels of exclusivity of workspace, sharing of workspace or satisfaction with spatial arrangements and female homeworkers’ reported levels of work-family conflict, satisfaction with work at home or work-family balance. Male partners’ perceptions about the level of conflict over space are significantly positively related to F→WC (β = .34, p = .05), but not to W→FC, satisfaction with work at home, or work-family balance.

Discussion
Male homeworkers’ reports of work-family experiences are not influenced by their reports of any of the spatial characteristics investigated here. In contrast, female homeworkers’ work-family experiences do seem to be shaped, to some extent, by their perceptions of spatial characteristics. There is particularly strong evidence that, for homeworking women, work-family conflict is related to perceived dissatisfaction and conflict within the family over spatial issues.

Although male homeworkers’ work-family experiences are not significantly related to their own perceptions of spatial characteristics, they are related to certain aspects of their female partners’ perceptions of space. Male homeworkers’ perceptions of work-family balance are influenced by their female partners’ perceptions of workspaces as being shared by family, and shared by family while being worked in. The direction
of this relationship is such that increased sharing is associated with a reduced perception of work and family as well-balanced. Also, when female partners perceive family members as using the room frequently while the homeworker is working, this is associated with male homeworkers’ increased perception of work interfering with family life. When female partners’ are dissatisfied with the spatial arrangements for work at home, male homeworkers are significantly more likely to perceive family as interfering with work. Female homeworkers’ work-family experiences are, conversely, generally not significantly related to their male partners’ experiences of space for homeworking. Only male partners’ perceptions of conflict over space are related to female homeworkers’ work-family experiences—specifically, family’s interference with work.

These findings offer some partial support with previous research, which has found that there is a gendered relationship between physical space and the work-family boundary in homeworking households (Sullivan, 2000). Furthermore, these findings suggest that the physical layout of homeworking households and the spatial experiences of the entire family do have the potential to influence the well-being of employees. Organisations that engage in homeworking practices need to consider such factors when considering the impact of homeworking on the work-family experiences and well-being of their employees.

These findings also show that the experiences of different family members will not necessarily converge. This supports the assertion that work-family research that is based solely on the accounts of one individual should not be interpreted as representative of the entire family.

References


This poster will report on the experienced stress and coping strategies of Norwegian and English nurses. Permanent day- and night-shift nurses at a Norwegian and English psychiatric hospital were recruited for the study. The aim was to find out whether night-shift nurses reported more stress and different coping styles from day-shift nurses. Eighty nurses were asked to participate of whom 58 returned usable data (response rate 73%).

Of particular interest was the development of an adapted Norwegian version of the Occupational Stress Indicator (Cooper, Sloane & Williams, 1988). The Indicator was translated into Norwegian by Breimo (first language Norwegian) and back translated by a teacher in Norway (first language English) and, where appropriate, items were specifically related to nursing. No significant differences were found between the groups of nurses reports of mental and physical health and job satisfaction. However, it is felt that this finding may reflect the nurses’ freedom to choose their shift pattern. English nurses employed various coping strategies more frequently than Norwegian nurses but there is a suggestion that this reflected their experience of more pressure from work stressors. Normative comparisons between Norwegian nurses and other groups (Cooper et al, *op cit*) suggest that this version of the OSI is satisfactory for further research.

Introduction

For some years, there has been debate about, and research into, the effects that non-traditional work schedules have on workers’ physical and mental health. Whereas night-work is essential to the functioning of many organisations, it can be harmful to staff (Martens, 1999). Harmful effects to individuals on night-work can be categorised under the headings of:

- Biological, due to the disturbance of circadian rhythms and patterns of waking and sleep;
- Medical, due to deterioration in health relating to disturbed sleeping and eating patterns which can lead to gastrointestinal and neuropsychic disorders. There may also be deleterious effects on cardiovascular function;
- Working patterns where fluctuations in body rhythms might lead to poor performance and errors;
- Social and domestic inconvenience, which may affect social life, marital relationships and childcare.

One question that arises is whether employees are more harmed by permanent night-work or rotating shifts. There is evidence that permanent night-workers can adapt their domestic and work arrangements to develop a satisfactory lifestyle. Verhaegen et al (1987) reported that permanent night-shift nurses reported fewer health complaints than those on rotating shifts. This suggests that being in control of shift patterns enables staff to cope with potential stress.

Folkman & Lazarus (1980) have suggested individuals can cope with stress by being either problem-focused or emotion-focused. Adopting a problem focus to stress leads the individual to tackle the sources of stress whereas using an emotion focus leads to the acceptance of the existence of the stressors but also to efforts to limit their impact. A third means of coping with stress is for the individual to acquire, or be given, social support (Karasek and Theorell, 1990). Social support can have a buffering effect on the effects of stress, thus making otherwise intolerable levels of stress more manageable. (Ross & Altmaier, 1994).

Psychiatric nurses experience similar stresses to nurses. However, they also face threats from violent patients and are expected to provide considerable community-based care. They also often work in drab physical surroundings. The present study provided an opportunity to compare the stress experienced by Norwegian and English psychiatric nurses working either permanent day or night shifts. Three hypotheses were examined:

**Hypothesis 1:** Due to the combined effects of psychobiological desynchronisation and reduced coping possibilities, night-shift nurses will report being more prone to stress-related complaints than day-shift nurses.

**Hypothesis 2:** Effective coping strategies can alleviate or prevent perceived job stress and job-related strain.
Hypothesis 3: Because social support influences the way a person copes, individuals who report receiving social support from family, colleagues, superiors and friends will show fewer symptoms of physical and mental ill-health than those lacking such support.

Of particular interest in this study was development of a Norwegian version of the Occupational Stress Indicator (OSI) (Cooper, Sloan & Williams, 1988) to allow for comparisons to be made. The OSI was developed to be a pragmatic instrument to enable organisations to examine stress levels among different groups of staff and to suggest appropriate lines of action. It is based on the model of:

Sources of Stress ➔ Individual Characteristics ➔ Coping Strategies ➔ Effects individual/ Organisational

Method

Participants and shift schedule
80 nurses were asked to participate in the study (20 for each group). Of these, 58 returned completed questionnaires (response rate 72.5%) In total, there were 14 English day-shift nurses, 11 English night-shift nurses, 18 Norwegian day-shift nurses, and 15 Norwegian night-shift nurses. In total, 37 female nurses and 21 male nurses participated in the study.

All nurses were classified as either permanent day- or night shift nurses. The study was conducted within an ‘independent’ English psychiatric hospital and a Norwegian state psychiatric hospital. Both hospitals operate with a bureaucratic structure, and both are located in rural surroundings. A three-shift schedule was in operation in both hospitals: The morning shift, the afternoon shift, and the night shift.

Measures
Two measures were used: The Occupational Stress Indicator (OSI) and a Social Support Questionnaire specific to this sample. The OSI comprises six stress-related questionnaires and an optional Biographical Questionnaire.

The OSI comprises six questionnaires, each subdivided into a number of sub-scales:

The first questionnaire, “How you feel about your job”, assesses job satisfaction, and a high score here suggests high satisfaction with various aspects of work.
- Satisfaction with achievement, value, and growth”. (six items).
- “Satisfaction with the job itself” (4 items)
- “Satisfaction with organisational design and structure” (5 items)
- “Satisfaction with organisational processes” (4 items) and
- “Satisfaction with personal relationships” looks at the quality of relationships at the workplace (3 items)

The second questionnaire, “How you assess your current state of health”, is concerned with mental and physical ill health and is in two parts. Part A; "How you feel or behave", consists of 18 items referring to mental ill health, and Part B; “Your physical health” consists of 12 items measuring physical ill health. High scores on these scales suggest that, when compared to norm groups, there is an impaired sense of general emotional well-being and more physical symptoms of stress.

The third questionnaire, “The way you behave generally” which measures Type A behaviour, was not analysed in this study.

" The fourth questionnaire, “How you interpret events around you.”, measures the extent to which individuals feel they have control over things that concern them, and a high score here suggests a perception of personal control. It is divided into three sub-scales:
- “Organisational forces” (5 items),
- “Management processes” (4 items)
- “Individual influence” (3 items).
The fifth questionnaire, “Sources of pressure in your job”, is concerned with the range of possible causes of occupational stress, and higher than average scores here indicate sources of perceived stress. It is divided into six sub-scales:

(a) “Factors intrinsic to the job” (9 items), (b) “The managerial role” (11 items), (c) “Relationships with other people” (10 items) (d) “Career and achievement” (9 items) (e)“Organisational structure and climate” (11 items) and (f) “Home/work interface” (11 items)

The sixth and last questionnaire, ‘How you cope with stress you experience’ consists of six sub-scales, and high scores suggest that these particular coping strategies are frequently used. The scales are as follows:

(a) “Social support” (4 items). (b) “Task strategies” (7 items). (c) “Logic” (3 items). (d) “Home and work relationship” (4 items). (e) “Time” (4 items) and (f) “Involvement” (6 items).

The scoring scale utilised in the OSI is a six-point Likert scale. Split-half reliabilities range from very low for some scales with very few items to values in excess of 0.70 on other scales. The OSI was adapted for nurses by altering words such as "company" and "employees" to "hospital" and "nurses" and a Norwegian version was developed. To ensure that the Norwegian and English versions of the OSI were comparable, the second author translated the English version into Norwegian, and a teacher at Bodo Viderlende Skole (Bodo High School) with English as first language and Norwegian as her second, translated the Norwegian version back into English. The test publishers (NFER- NELSON) gave their permission for the use of the OSI in this way.

An additional questionnaire was developed to investigate social support (both sought out and received) and the support that made a significant difference to how nurses cope with job demands. The first part of the questionnaire consisted of nine items, which asked “What sources of social support do you utilise?” These items were measured using a five-point Likert scale (always, usually, when possible, not usually, never). The nine items were: learning resource centres, written information of how to deal with demands of job, nursing unions, supervisors, peers, partners, other family members, friends, others.

The second part of the social support questionnaire asked for free responses to the questions: "Are there any of the sources of support mentioned above which you would benefit from but which are not available?" .... " Can you please state any support which you actually received / sought out which has made a significant difference to how you coped with your job?" .... " Are there any sources of stress not mentioned so far (e.g. behaviour of patients) that you feel affect you in your job?"

Results

The OSI provides a visual descriptive method for examining group results with the Indicator Manual providing normative scoring schemes for managers. Using this method, it appeared that English nurses experienced more stress than Norwegians. Thus, for all the pressures in your job English day-nurses and night-nurses scored ‘above average’ on all scales save for factors intrinsic to the job itself. In contrast, Norwegian nurses reported ‘average levels’ of stress with the only exception being day nurses reporting that they experienced ‘above average’ stress in their relationships with other people. The descriptive method also revealed that all nurses reported ‘above average’ involvement as a means of coping with stress; and that task strategies and social support were important.

When scores for the different groups of nurses were compared, it was found that, on all six scales of pressure in your job, English nurses scored higher than Norwegians (all t-values, 2-tailed test, significant at p<0.01.). There were no significant differences in reported stress between day- and night-nurses of the same nationality. With regards to coping, English nurses reported receiving more social support and more use of support available from home and work relationships and English night nurses highest on task strategies.

The effects of stress measures, which are meant to show the outcome of stress and coping, showed that Norwegian nurses were clearly more satisfied with their achievement and growth and with organisational processes. However, what was important was that only Norwegian day-shift nurses reported ‘above average’ physical ill health. It appears therefore that neither mental nor physical ill health were major concerns for these nurses. Therefore, the first research hypothesis, that the combined effects of psychobiological desynchronisation and reduced coping strategies would lead to more reported stress complaints among night-nurses, received no support. There were no major differences in reported health levels between the two groups of nurses. This was despite clear evidence that the English nurses felt more stressed. It appears that they had coping strategies to deal with the perceived greater stress. This provides some support for the second and third hypotheses. In summary, these results suggest that English nurses feel more stressed than their Norwegian counterparts, and even though they draw on social supports for coping with the stress they still feel less satisfied with some aspects of their work.
In summary, these results suggest that English nurses feel more stressed than their Norwegian counterparts, and even though they draw on social support for coping with the stress they still feel less satisfied with some aspects of their work.

The social support questionnaire provided a useful descriptive summary of help available to nurses. All groups reported receiving help from superiors, peers, partners and friends. All groups received little or no support from learning resource centres, written information, nursing unions or medical supervision. When asked to provide details of support that was lacking, Norwegian day-shift nurses indicated that they would welcome more help from learning resource centres, while English day-shift nurses wanted a staff counsellor. Norwegian night-shift nurses wanted more supervision, more medical support and more help from unions. English night-shift nurses wanted more written information and help from unions. Unsurprisingly, all nurses reported that dealing with violent patients was a major source of stress.

Conclusions

More work needs to be done to establish the reliability of the Norwegian version of the OSI and further studies should be undertaken to establish Norwegian norms and criterion-related validity. Nonetheless, this first foray suggests the potential utility of the instrument in Norway.

The failure to support the first hypothesis may be accounted for by the fact that the nurses in this study were on permanent shifts and had chosen their schedule. It was clear that English nurses reported greater stress levels but did not report above average levels of ill health. It also appears that English nurses used more coping strategies, more frequently, than Norwegian nurses. Given also the values placed on social support, there is some evidence to support the other two hypotheses, namely that effective coping strategies can alleviate stress and that social support influences the way people cope.

This study can only be regarded as an exploratory first step. It relied solely on self-report data and the samples were drawn from rural hospitals, which raises the question of generalising to inner city hospitals. Nonetheless, it does seem that the OSI is a potentially useful instrument for cross-cultural studies of stress. In keeping with the approach of the OSI, which is intended as a pragmatic instrument, it is recommended that investigators use it in conjunction with methods to investigate (in greater detail) stress and coping. In this study, the social support questionnaire provided useful leads for human resource management of this group of workers.

References

The Impact of Social Factors on Workers’ Coping with Musculoskeletal Symptoms

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Workers with musculoskeletal symptoms are often advised to cope by such measures as changing working technique and using lifting equipment. The hypothesis for this study was that negative social and organizational factors may prevent workers from implementing such coping strategies. A cross-sectional study among 1567 motor vehicle repair workers was performed. The results indicate that support and control at the work place may prevent workers from implementing problem-focused coping strategies when experiencing musculoskeletal symptoms.

Introduction

Workers in garages, including automobile mechanics, paint sprayers and panel beaters, often have to assume strenuous work postures for prolonged periods, such as, for example, when they work under car bonnets with their back in a forward flexed position and when they work under the cars with their arms above their head (Kant et al., 1990; Torp et al., 1996). These strenuous postures may be one reason why musculoskeletal symptoms are common among this group of workers (Houben et al., 1990, Omokhodion, and Onsonbade, 1996; Torp et al., 1996).

Health professionals often advise workers with musculoskeletal symptoms to cope by using such measures as changing their working technique, using lifting equipment, taking breaks and avoiding strenuous work tasks. They also encourage workers to participate actively in the company’s health and safety at work programme to improve the physical and psychosocial work environment. It often seems difficult to get workers to perform these suggested coping strategies. Our hypothesis is that this difficulty may be caused by social and organisational factors at work. The main objective of this study was therefore to investigate the relationship between the social and organizational work environment and how garage workers with musculoskeletal symptoms cope.

Methods and material

A cross-sectional study was performed in 237 automobile garages in Norway. All 2174 workers, except for warehouse and office workers, were asked to complete a questionnaire on the psychosocial work environment and coping with physical strain while experiencing musculoskeletal symptoms. A total of 1567 (72%) questionnaires were returned. The average age of the respondents was 34 years, and 98% were men.

The theoretical model for this study was developed from the Job Demands-Control-Support Model (Karasek, and Theorell, 1990). Job demands, decision authority (control), and social support were measured by a modified version of the Swedish Job Content Questionnaire designed by Theorell et al. (1993). In addition to these predictor variables, two more were constructed for this study; health, environment and safety (HES)-related management support and health-related control. The outcome variable, coping with physical strain when having musculoskeletal symptoms, was measured using a modified version of an index we used in an earlier study (Torp et al. 1999). All the items for all the variables used a seven-point scale. Job demands were measured by two questions asking whether they had enough time to get things done and whether the demands were too high. Decision authority was measured by two questions regarding whether they could influence what and how work should be done. A 6-item scale focusing on colleague support measured social support. The index of HES-related management support contained nine items focusing on how the workers regarded management’s involvement in health and safety at work in their garage. Examples include: whether management kept their promises about health and safety improvements and whether the manager took the workers’ opinions about health and safety seriously. The index for health-related control had three items measuring for example, opportunities to take breaks and to seek help from colleagues and supervisor when they had health problems. Coping was measured by a 10-item index. The interest here was whether workers used different coping strategies when they had musculoskeletal symptoms. Examples of such coping strategies included: changing working techniques, using lifting equipment, taking breaks and taking part in the company’s health and safety at work programme.
The scores were summarised, and a higher total score indicated a higher level of job demands, decision authority, social support, HES-related support, health-related control and coping. The Cronbach’s alpha values were satisfactory for most of the indices: that is they ranged between 0.76 and 0.90 (Torp et al. in press). The exception was the job demands index, which had an alpha value of 0.32. When all the predictor variables were included in a principal component analysis with Kaiser Varimax rotation, a structure emerged that showed a reasonable degree of fit with the five theoretically constructed factors.

Data analysis
A multiple regression analysis was used to investigate the relationships between the outcome variable (coping with musculoskeletal symptoms) and the predictor variables (social support, control, job demands, HES-related management support and health-related support and control). The level of significance was set at 0.05. The analysis was performed using the SPSS 7.5.1 computer package (1997).

Results
Of the 1567 workers who responded to the survey, 352 (22%) reported that they never experienced bodily pain that troubled them at work. Coping was measured among the remaining 1215 workers. Multiple regression analysis was performed to test the relationships between the outcome variable and the predictor variables. In the analysis age and sex were controlled for. The bivariate correlations between coping and the predictor variables are shown in Figure 1, model 0. Demands, decision authority and social support were first added to the regression model to test the job demands, control and support model (model 1). Both social support and decision authority correlated positively and significantly with coping. When HES-related management support was added to the model (model 2), this variable was also significantly and positively correlated with coping. The other relationships were slightly reduced but were still significant. When health-related control was added (model 3), the other positive relationships were reduced to almost nil, whereas health-related control correlated relatively highly, with a standardised beta of 0.36. Model 3, with health-related control as the only significant variable, explained 14% of the variation in how the workers coped with physical strain when experiencing musculoskeletal symptoms. No interaction effects could be seen.

Table 1. Multiple regression analysis with coping as the outcome variable and job demands, decision authority, social support, HES, environment and safety, management support and health-related control as predictor variables (n= 1215). Three independent regression analyses were performed with different numbers of predictor variables added (model 1, 2 and 3). The analyses are adjusted for age and gender, and standardised betas are shown. Bivariate correlations are shown in model 0.

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Discussion
The results of this study indicate that decision authority, social support, HES-related management support and health-related control may affect how workers in garages cope with their musculoskeletal symptoms. The relationships between coping and social support, decision authority and management support disappeared when health-related control was added to the model. This may indicate that these variables lead to health-related control, which in turn influences the workers’ coping.

The Demands-Control-Support model (Karasek, and Theorell, 1990) proposes an interaction effect of the three variables. No such interaction effect could be seen in this study. Because of the study’s cross-sectional design, firm conclusions about causal relationships between social and organizational factors and coping with musculoskeletal symptoms cannot be drawn. Nevertheless, the findings are partly supported by theories (Karasek, and Theorell, 1990; Kagan, and Levi, 1971), and other studies (Long, 1990; Theorell, 1996; West, 1989; Heaney et al., 1995; Parkes, 1986; Bunce, and West, 1994) on relationships between work environment and other types of coping.

The predictor variables explained 14% of the variation in coping. Other factors expected to influence coping such as personality, experience, education, physical work environment and types of symptoms were not
included in this study. In addition, only garage workers were sampled which presumably leads to a restriction of variance in the predictor variables. This low variability might lead to an underestimation of the investigated effects. Further, low correlations may still represent substantial effects for the extremes of a population. That is, the use of coping strategies may be markedly limited among the rather few workers experiencing really poor psychosocial work environment.

This study was performed among workers in motor vehicle repair garages. Musculoskeletal symptoms are common among many different groups of workers, and everyone with work-related musculoskeletal symptoms has to cope with these symptoms in one way or another. We believe that other groups of workers with similar physical work would behave similar to the workers in this study.

One implication from the results of this study may be that health professionals who advise workers on coping with musculoskeletal symptoms should investigate the workers’ opportunities to perform the suggested activities before they can expect positive results from their advice. Achieving positive results from preventive work through “back schools” and other ergonomic interventions may seem to require that an organisation first establish positive attitudes toward health and safety at work before implementing such interventions.

References


A review is presented of recent research into the relationship between health and safety problems and extended work hours. Factors identified as potential moderators of the relationship include domestic circumstances, psychological reaction to the job, length of the total working day, the way in which overtime is implemented and gender-related issues. A call is made for more refined methods of regulating work hours which take account of influences that moderate the impact of extended work hours.

Introduction

A recent UK survey of 7500 people working in a range of occupations found that almost half of the respondents worked extended hours i.e. some hours in addition to their contracted hours (Hogarth, Hasluck, Pierre, Winterbottom & Vivian, 2000). The average amount of overtime worked by respondents in full-time employment was 9.6 hours per week. Almost 11% of full-time employees worked more than 60 hours in total per week.

Sparks, Cooper, Fried & Shirom (1997), reported a meta-analysis of research into the health effects associated with long work hours. They concluded that there is a link between hours of work and ill-health and that it is subject to a wide range of moderating factors. At around the same time, Spurgeon, Harrington & Cooper (1997) published a review of both health and safety considerations. They concluded that there was sufficient evidence to raise concerns about the risks of long working hours. However, they went on to note that much more work was required to define the level and nature of those risks. The current paper seeks to provide an update of the picture described by Spurgeon et al (1997), and to consider further the directions for future research in this area.

Psychological health

Several studies cited by Spurgeon et al (1997) suggest the possibility of negative impacts of overtime. However overtime was usually but one of a range of work stressors thought to be contributing to such negative outcomes. Moreover, other work stressors were often found to be of equal or greater importance. Similar conclusions were reached in a more recent review of job-stress research conducted in Japan over the last 15 years (Kawakami & Haratani, 1999). It was concluded that factors such as job control, skill use and work site support, as well as qualitative aspects of job demand had greater effects on psychological distress.

A recent longitudinal study by Steptoe et al (1998) found no relationship between the work hours of retail staff in a London store and their psychological well-being. A potentially important feature of this study was that the levels of overtime varied substantially over the four measurement points which were separated by only four months in total. This suggests that relatively short exposures to long working hours may be less deleterious to mental health than constantly working long hours over periods of many months or even years. The authors also suggest that when there are large fluctuations in overtime, the drop in income that is associated with shorter working hours may actually increase distress levels. While the retail workers’ psychological well-being remained seemingly unaffected by work load, their levels of perceived stress, arguably a more acute measure, were positively associated with the amount of overtime worked. An explanation of the difference in these two outcomes is suggested by the approach outlined by Barnett, Gareis & Brennan (1999). They contend that the relationship between long hours and distress indicators is stronger when ‘domain specific’ (i.e. job related) outcome measures are used.

Barnett et al (1999) introduced the concept of ‘fit’ as a mediator of the impact of long hours upon burnout. Fit is defined as the extent to which the length and timing of work hours matches the preferences and needs of the worker, their partner and their children, if any. Thus, for example, one partner may choose to work longer hours in order to finance their child’s education rather than impose the burden of student loan finance charges on the family. If the partner in question is unable to fulfill their goal of longer hours, then the impact will be negative in much the same way that it would be if an individual had to work more hours than they preferred. It remains to be seen to what it extent it is possible to generalize beyond the findings of Barnett et al (1999), which were based upon a non-random sample of married physicians, the large majority of whom were female.

The importance of considering the worker as part of a family system is also highlighted by Hogarth et al (2000). In this large scale survey, males tended to work longer hours than females. This difference is partly
attributable to gender-related differences in occupation, but also, seemingly, to the different domestic roles adopted by male and female respondents. Married (or partnered) fathers were the most likely to work long hours, which, as the authors suggested, reflected both the need for income (associated with children) and the opportunity to work long hours (associated with the presence of a partner). The desired type of work time flexibility also differed between males and females. In comparison with female respondents, a larger proportion of men wanted flexible hours, compressed working weeks and annualised hours. Conversely, a larger proportion of women expressed a preference for term-time working and reduced hours. While some of these trends were not very pronounced, they do appear to accord with the picture described by Barnett et al (1999) of decisions about work hours often being made and evaluated within the context of the family system.

Previous research has provided some evidence of maladaptive health behaviours in response to long hours. More recently, Steptoe et al (1998) examined cigarette and alcohol consumption in relation to long working hours in their controlled study of retail workers and found only limited evidence of such a relationship. However, their findings did suggest that particular sub-groups of individuals may have been vulnerable to long work hours and it was concluded that such individuals may benefit from support and modification in work practices.

It appears that the impact of long hours upon psychological well-being will be contingent firstly upon the way in which we operationalise the concepts of psychological distress and working hours. Domain specific indices may be more sensitive to acute effects than more generalised measures of psychological well-being. Also, it is important that measures of work hours take into account non-work activities, including domestic work. Secondly, the impact on psychological well-being will also be contingent upon a range of situational factors. These are likely to include the way in which overtime is managed (e.g. the regularity with which overtime is worked), the degree of stress inherent in the job, the individual’s overall job satisfaction and their domestic circumstances. The latter two points emphasize the importance of considering the individual’s motivation for undertaking overtime. They highlight the possibility that long working hours may be associated with enhanced psychological well-being under certain circumstances.

Physiological health

Our search of literature since 1997 suggests that Japanese researchers are still the most active in this area, particularly in relation to cardio-vascular disease. However, it should be born in mind when considering these findings that Japanese work hours are, on average, much longer than even the highest national averages in the West, and also that there are marked cultural differences between Japan and its western counterparts. Sokejima & Kagamimori (1998) report a case-control study of acute myocardial infarction (MI) in Japanese men. As well as finding an association between long hours (i.e. >11 hours per day) and increased risk, they also identified a trend for risk to increase when there was a large increase in work hours (i.e. >3 hours per day) in the months leading up to the acute MI. While this study provides relatively robust evidence of a link between long hours and cardio-vascular disease, it has been noted that the controls for this study were not selected from the same worksite (Kawakamai & Haratani, 1999).

Other cardio-vascular indicators that have been linked with long hours amongst Japanese white collar workers include heart rate variability (HRV; Kageyama, Nishikido, Kobayashi, Kurokawa, Kaneko & Kabuto, 1999) and continuously monitored blood pressure (Hayashi, Kobayashi, Yamaoka & Yano, 1996). The former study also reported an association between HRV and long commuting journeys (>90 minutes each way) which was independent of the amount of overtime worked. It was suggested that the relationship between commuting time and HRV could have been mediated by sleep duration, which was inversely related to commuting time. A study of Japanese engineers (Sasaki, Iwasaki, Oka & Hisanaga, 1999) found no relationship between their measure of work hours (which included commuting time) and a range of cardio-vascular indices. However, they did find a positive relationship between one of the health indices (levels of the hormone dehydroepiandrosterone; DHEA-S) and sleep length, which in turn was inversely related to work hours. On the basis of their results, the authors concluded that long work hours might lower the serum DHEA-S level due to reduction of sleep duration.

In their review of Japanese research, Kawakamai & Haratani (1999) report that long hours were associated not just with higher risk of MI, but also with increased incidence of diabetes mellitus amongst men working more than 53 hours per week (Kawakamai, Araki, Takatsuka, Shimizu & Ishibashi, 1999), and increased incidence of hypertension amongst those working more than 60 hours per week (Uehata & Hasegawa, 1994). A U-shaped relationship was found between work hours and both MI (Sokejima & Kagamimori, 1998) and hypertension (Uehata & Hasegawa, 1994). This may indicate that work under-load is also a risk factor in coronary heart disease, although the direction of any causal link between the associated factors must remain open to question.

A number of recent papers have identified other physical health risks associated with long working hours, particularly amongst female workers. These include musculo-skeletal disorders (Fredriksson, Alfredsson, Koster, Bildt Thorbjornsson, Toomingas, Torgen, & Kilbom, 1999) and a range of psychosomatic symptoms...
such as eye discomfort, fatigue, headache, stomachache, and diarrhoea (Araki, Muto & Asakura, 1999). Tuntiseranee, Olsen, Geater, & Kor-anantakul (1996) reported a link between sub-fecundity and long work hours among women. The effects could not be fully explained in terms of menstrual disorders, loss of libido or lowered sexual activity. Mozurkewich, Luke, Avni & Wolf (2000) reported a meta-analysis of previous research in which they found no overall relationship between long work hours (defined as > 39 hours per week) and pre-term (i.e. <37 weeks) births.

In summary, the need identified by Spurgeon et al (1997) for further research to explore the interactions between long work hours and other factors that moderate its relationship with cardio-vascular disease remains. The role played by sleep deprivation, both in relation to actual work hours and to the length of the working day (i.e. including commuting time), appears to be potentially important. A range of other physical health indices need to be considered, not just in relation to the complaints associated with physically demanding jobs, but also sedentary ones (e.g. musculo-skeletal disorders). Finally, recent research has identified the potentially heightened risk for women of long work hours. While there is no clear evidence of an impact on reproductive health per se, a possible link between long working hours and sub-fecundity in women awaits further investigation.

Performance and safety
Few published research findings have emerged recently (i.e. post Spurgeon et al, 1997) relating specifically to extended work hours and either performance or safety. Thus, the question of which factors moderate the impact of extended hours upon safety remains to be addressed. One set of factors will relate to fatigue and its impact on performance and alertness e.g. time of day, sleep deficits. In addition, it remains to be seen how individuals’ risk taking behaviour changes when they are working overtime. Such behavioural changes may also be associated with fatigue, or with other changes in the context within which the work takes place. For example, adherence to the regulations and practices of the normal daytime working environment may be affected during periods of overtime working. Additionally, the individual or the organisation may fail to adequately anticipate the impact of overtime working on the efficacy of normal safety procedures.

Flexible working time arrangements
Long work hours are intrinsically bound up with the issue of flexible working practices. Flexible working is a generic phrase that encompasses a variety of working arrangements. Long hours will feature in several types of flexible working arrangements e.g. compressed working weeks, ‘flexitime’ and annualized hours. (This raises the question of what constitutes an appropriate unit for quantifying work hours: hours worked per day, per week, per year, or some other unit.) It seems likely that flexible working practices will moderate the impact of long working hours. However, researchers have yet to systematically study the way in which the effects of long hours are moderated by many of the flexible working time arrangements that have evolved in recent years.

Conclusions
The survey findings cited at the beginning of this paper (Hogarth et al, 2000) suggest that the proportion of employees working above the Working Time Directive’s limit of 48 hours per week is greater than can be accounted for in terms of the WTD’s various derogations. Rather, they indicate that a substantial proportion of the working population is choosing to opt out of the WTD’s limitation. While the notion of genuine ‘choice’ is a contentious issue, the survey’s findings, along with those of recent research (e.g. Barnett et al, 1999), suggest that a ‘one-size-fits-all’ approach to the limitation of work hours is not appropriate. If this is the case, what is so special about 48 hours per week? The UK’s trades unions are calling the ‘opt out’ derogation to be dropped from the WTD. If this happens, a lot of individual workers will be prevented from achieving their goal, be it in terms of what they are able to achieve within their job, or be it in terms of providing the desired level of financial support for themselves and their families. In such circumstances, we must consider whether we can justify imposing limitations on weekly work hours in order to save individuals from themselves.

On balance, it remains the case that a maximum 48 hour working week is still appropriate in the light of available evidence. However, it is also evident that a blanket limit is a blunt instrument, not to mention a highly controversial one, in light of the complex picture that emerges from a review of that array of evidence. Therefore, we contend that occupational psychologists should develop more sophisticated methods of identifying appropriate limits for working hours. These limits might be based upon the assessment of the individual circumstances of the worker and / or their work environment. Indeed it could even be argued that we should not be thinking in terms of setting limits to work hours, but instead, identifying optimum levels of overtime that are suited to the individual as part of a work-family system.
References


Associations Between Overtime and Psychological Health in High and Low Reward Jobs

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This study focused on the relationship between overtime and psychological health in different types of jobs. In particular, the role of job rewards and pressure to work overtime were studied. Psychosomatic health complaints, slow recovery, burnout and work-home interference were used as indicators of psychological health. Data were collected for 544 full-time employees of the Dutch Postal Service. Split-sample logistic regression analyses suggest that even a limited number of hours of involuntary overtime work is associated with adverse psychological health, but only in low reward situations.

Introduction

Working hours
Working hours have been studied extensively, however most research on this subject has concentrated on shift work and compressed work weeks (Thierry & Meijman, 1994). Several studies (e.g. Rosa, Colligan & Lewis, 1989; Pierce & Dunham, 1992; Duchon et al., 1994) have shown that compressed work weeks (i.e. short work weeks with extended work days) are associated with sleep disturbance, disruption of personal activities and fatigue, but this is usually compensated by longer recovery periods of better quality. However, working overtime typically means that an increase of fatigue will not be compensated by longer periods of rest and therefore an accumulation of fatigue may occur. Relatively little is known about the effects of overtime and long working hours in general, although the literature does suggest that long hours can be associated with health and safety risks (Harrington, 1994; Cooper, 1996; Spurgeon et al., 1997). Earlier research has shown that long working hours are related to poor psychological health (Sparks et al., 1997; Borg & Kristensen, 1999), excessive fatigue (Rosa, 1995), symptoms of burnout (Barnett et al., 1999), and work-home interference for the employees themselves (Grzywacz & Marks, 2000) and their spouses (Geurts et al., 1999).

The association between long working hours and psychological health is likely to depend on psychosocial work characteristics. That is, long working hours may be more detrimental to psychological health in some types of job than in others. This study used Siegrist’s (1996, 1998, 1999) Effort Reward Imbalance (ERI) model as a framework to study effects of overtime in several job types. This model focuses on reciprocity of costs and benefits in occupational life. In particular, the effort costs of work in terms of demands and obligations are balanced with occupational rewards in terms of money, esteem and status control (security and career opportunities). High effort / low reward situations are predicted to be associated with adverse health, i.e. cardiovascular disease, cardiovascular risk factors, changes in cardiovascular and hormonal responsiveness, self-reported health (burnout), and sickness absence. Based on the ERI-model, it was hypothesised that overtime would be associated with adverse psychological health in low-reward situations. In addition to job characteristics, personal election to work overtime is likely to determine whether long working hours will be associated with psychological health complaints. Although the possible role of personal choice has been pointed out before (e.g. Spurgeon et al., 1997), we are not aware of a systematic study addressing this issue. It was hypothesised that long working hours are especially detrimental to health in employees who feel compelled to work overtime because of company pressure. This study focused on the relationship between overtime and psychological health in high and low reward jobs, and in jobs with high and low pressure to work overtime.

Method

Sample and procedure
Data were collected for 751 employees who worked in two districts of the Dutch Postal service (response 64%). In order to create a more homogenous sample with respect to working hours, only full-time employees (38 hours per week) were selected for the analyses that are reported here. Only 5.3% of the remaining 544 participants were women. The average age of participants was 43.6 years (SD 7.5 years). The majority of the employees in the sample were postmen and drivers.

Measures
Working overtime was measured with the following item: ‘On average, how many hours a week do you work overtime?’. The alternative answers to this question were 0 hours, 1-5 hours, 6-10 hours, 11-20 hours and more
than 20 hours. Pressure to work overtime was measured by asking employees how often their direct superior expected them to work overtime (never, now and then, often, very often).

Rewards were measured by means of seven dichotomous items (yes or no). Four items measured career opportunities, one item measured status incompatibility, and two items were used to measure satisfaction with salary. The sum of all 7 items was the total reward score, with higher scores indicating low rewards (high risk).

Psychosomatic health complaints were measured by means of a questionnaire on subjective health. This questionnaire consists of 13 dichotomous items (yes or no) asking whether or not one occasionally suffers from a range of psychosomatic complaints, such as headache, chest pain, backache, fatigue, dizziness, etc. The total number of ‘yes’ answers is used as a measure of psychosomatic health complaints.

Recovery was measured by means of one item: ‘How long does it generally take before you become relaxed after a working day?’ The possible answers to this question were ‘within an hour’ (1), ‘after some hours’ (2), ‘on the first day off’ (3), ‘on the second day off’ (4), and ‘different’ (5).

Burnout was measured by means of the Dutch version of the Maslach Burnout Inventory. In this study, the competence scale was not included, and only emotional exhaustion and depersonalisation were used as indicators of burnout symptoms. The items of both aspects of burnout were measured on 7-point scales ranging from ‘never’ (0) to ‘every day’ (6).

Work-home interference was measured with the ‘SWING’-questionnaire (Survey Work-home Interference Nijmegen). This questionnaire consists of four scales that measure negative and positive interference from work to home and vice versa. Only the scales for negative interference were used in this study. Both scales were measured on a four-point scale ranging from ‘never’ (0) to ‘always’ (3).

Analysis
This study focused on the relationship between overtime on the one hand and psychosomatic health complaints, poor recovery after work, burnout, and work-home interference on the other. The scores on overtime work were dichotomised in order to create a group of employees who report 0 hours of overtime per week and a group of employees who report overtime work. T-tests were used in order to investigate possible differences in psychological health between employees who do and employees who do not work overtime. The reward scores were dichotomised in such a way that scores 0 to 3 were classified as high rewards and scores 4 to 7 were classified as low rewards. The combination of overtime (yes or no) and rewards (high or low) was used in order to create four groups (coded in three dummy variables). The reference (low risk) group was the group who did not work overtime and who reported high rewards. The dependent variables were all dichotomised on the highest tertile, that is, the bottom two thirds of the scores were coded as low risk and the highest third of the scores was coded as high risk. For the recovery measure, this meant that relaxing within an hour after work was classified as low risk, and slower recovery was classified as high risk. Multivariate logistic regression analyses were used to calculate odds ratios (ORs) and 95% confidence intervals (CIs). Age and gender were controlled for in the analyses.

In order to study the effects of external pressure to work overtime, the pressure-measure was dichotomised. The original scores ‘never’ and ‘now and then’ were classified as low pressure, and ‘often’ and ‘very often’ were scored as high pressure. A multivariate logistic regression analysis was carried out only for employees who worked overtime. Four groups were created on the basis of high and low rewards and high and low pressure to work overtime. Again, age and gender were controlled for and ORs and CIs were calculated.

Results
About 40% of the employees in the sample did not work overtime, whereas the other 60% did, usually between 1 and 5 hours per week. Table 1 reports scores on psychological health indicators for employees who do and employees who do not work overtime. T-tests were carried out in order to evaluate the differences between the two groups. In general, overtime was associated with lower scores on depersonalisation and higher scores on work-home interference and home-work interference. Furthermore, employees who work overtime report fewer psychosomatic health complaints and slower recovery, but these differences failed to reach statistical significance.

The results of the split-sample logistic regression analysis are reported in table 2. Employees who did not work overtime and reported high rewards served as the reference group in this analysis. As table 2 shows, employees who work overtime but report high rewards do not suffer from psychosomatic health complaints any more than employees in high reward jobs who do not work overtime. Employees reporting low rewards but no overtime had elevated risks of burnout, negative work-home interference and slow recovery. In addition, the combination of overtime and low rewards was associated with higher risks of negative home-work interference.
Table 1 Psychological health indicators for employees who work overtime and employees who do not work overtime

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Overtime</th>
<th>No</th>
<th>Yes</th>
<th>T (df)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychosomatic health complaints</td>
<td>3.96</td>
<td>3.45</td>
<td>1.84</td>
<td>(531)</td>
<td>.066</td>
</tr>
<tr>
<td>Poor recovery</td>
<td>1.70</td>
<td>1.83</td>
<td>-1.95</td>
<td>(517)</td>
<td>.051</td>
</tr>
<tr>
<td>Burnout: exhaustion</td>
<td>2.29</td>
<td>2.14</td>
<td>1.08</td>
<td>(529)</td>
<td>.282</td>
</tr>
<tr>
<td>Burnout: depersonalisation</td>
<td>2.31</td>
<td>2.07</td>
<td>2.21</td>
<td>(530)</td>
<td>.027</td>
</tr>
<tr>
<td>Work-home interference</td>
<td>.80</td>
<td>.90</td>
<td>-2.26</td>
<td>(530)</td>
<td>.025</td>
</tr>
<tr>
<td>Home-work interference</td>
<td>.33</td>
<td>.39</td>
<td>-1.98</td>
<td>(530)</td>
<td>.048</td>
</tr>
</tbody>
</table>

Table 2 Odds ratios (ORs) and confidence intervals (CIs) of poor psychological health by overtime (yes or no) and rewards (high or low) after controlling for age and gender (n = 535)

<table>
<thead>
<tr>
<th></th>
<th>Psychosomatic health complaints</th>
<th>Poor recovery</th>
<th>Exhaustion</th>
<th>Depersonalisation</th>
<th>Work-home interference</th>
<th>Home-work interference</th>
</tr>
</thead>
<tbody>
<tr>
<td>No overtime / high rewards (n = 102)</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>No overtime / low rewards (n = 107)</td>
<td>1.79</td>
<td>2.15</td>
<td>2.41</td>
<td>5.80</td>
<td>2.48</td>
<td>1.11</td>
</tr>
<tr>
<td>(0.99-3.20)</td>
<td>(1.21-3.80)</td>
<td>(1.31-4.43)</td>
<td>(3.02-11.16)</td>
<td>(1.32-4.67)</td>
<td>(0.55-2.22)</td>
<td></td>
</tr>
<tr>
<td>Overtime / high rewards (n = 146)</td>
<td>0.72</td>
<td>1.43</td>
<td>0.74</td>
<td>1.30</td>
<td>1.27</td>
<td>1.31</td>
</tr>
<tr>
<td>(0.40-1.29)</td>
<td>(0.85-2.40)</td>
<td>(0.39-1.39)</td>
<td>(0.67-2.52)</td>
<td>(0.68-2.39)</td>
<td>(0.69-2.50)</td>
<td></td>
</tr>
<tr>
<td>Overtime / low rewards (n = 180)</td>
<td>1.64</td>
<td>3.16</td>
<td>2.20</td>
<td>2.69</td>
<td>2.78</td>
<td>2.40</td>
</tr>
<tr>
<td>(0.96-2.81)</td>
<td>(1.86-5.39)</td>
<td>(1.25-3.88)</td>
<td>(1.45-4.98)</td>
<td>(1.55-5.00)</td>
<td>(1.31-4.40)</td>
<td></td>
</tr>
</tbody>
</table>

A second analysis was conducted for employees who reported overtime separately (about 60% of the original sample) in order to study the effects of pressure to work overtime (see table 3). The reference group consisted of employees who reported high rewards and low pressure to work overtime. High pressure to work overtime in high reward situations was not associated with increased risks of adverse psychological health. Low rewards (and low pressure) were associated with elevated risks of psychosomatic health complaints and emotional exhaustion. These risks were also present and considerably higher for those who reported low rewards and a high pressure to work overtime. Moreover, employees who reported a high pressure to work overtime in combination with low rewards had elevated risks of poor recovery, depersonalisation, work-home interference, and home-work interference.

Table 3 Odds ratios (ORs) and confidence intervals (CIs) of poor psychological health of employees who work overtime by rewards (high or low) and pressure to work overtime (high or low) after controlling for age and gender

<table>
<thead>
<tr>
<th></th>
<th>Psychosomatic health complaints</th>
<th>Poor recovery</th>
<th>Exhaustion</th>
<th>Depersonalisation</th>
<th>Work-home interference</th>
<th>Home-work interference</th>
</tr>
</thead>
<tbody>
<tr>
<td>High rewards / low pressure (n = 126)</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Low rewards / low pressure (n = 138)</td>
<td>2.03</td>
<td>1.62</td>
<td>2.46</td>
<td>1.65</td>
<td>1.54</td>
<td>1.62</td>
</tr>
<tr>
<td>(1.16-3.54)</td>
<td>(0.95-2.75)</td>
<td>(1.38-4.37)</td>
<td>(0.94-2.91)</td>
<td>(0.88-2.69)</td>
<td>(0.93-2.83)</td>
<td></td>
</tr>
<tr>
<td>High rewards / high pressure (n = 19)</td>
<td>1.02</td>
<td>0.80</td>
<td>0.87</td>
<td>0.70</td>
<td>1.28</td>
<td>0.99</td>
</tr>
<tr>
<td>(0.31-3.38)</td>
<td>(0.29-2.18)</td>
<td>(0.23-3.27)</td>
<td>(0.19-2.63)</td>
<td>(0.42-3.91)</td>
<td>(0.30-3.26)</td>
<td></td>
</tr>
<tr>
<td>Low rewards / high pressure (n = 41)</td>
<td>3.47</td>
<td>8.11</td>
<td>3.85</td>
<td>2.86</td>
<td>6.40</td>
<td>2.62</td>
</tr>
<tr>
<td>(1.62-7.42)</td>
<td>(2.34-28.05)</td>
<td>(1.78-8.36)</td>
<td>(1.33-6.17)</td>
<td>(2.92-14.01)</td>
<td>(1.23-5.58)</td>
<td></td>
</tr>
</tbody>
</table>
Discussion

Overtime work is rather common in this sample. About 50% of the full-time employees in the sample work 1 to 5 overtime hours per week, another 10% works overtime more than 5 hours per week. A comparison of psychological health indicators of employees who do and employees who do not work overtime revealed that overtime is associated with negative work-home interference and home-work interference. The data suggest that working overtime not only puts pressure on private or family life, but employees who work overtime also feel that their family life interferes with their work. This confirms earlier findings that longer working hours are associated with work-family conflict in both directions (Grzywacz & Marks, 2000). Overtime was not related to the emotional exhaustion component of burnout, but an association was found between overtime and depersonalisation. Employees who work overtime actually report lower levels of depersonalisation. This may seem counter-intuitive, but it could reflect a selection effect. Rather, healthy workers who do not suffer from burnout may work overtime, whereas workers who do have symptoms of burnout may not be motivated to work overtime hours. A nonsignificant trend indicating that employees who work overtime tend to report fewer psychosomatic complaints supports this interpretation. Further, there was a non-significant trend indicating an association between overtime and poor recovery.

A logistic regression analysis was carried out in order to determine whether associations between overtime and psychological health depend on rewards. It was found that overtime in high reward jobs was not associated with increased risks of adverse psychological health. This is an important result, indicating that long working hours do not necessarily have negative consequences for the employee. Low rewards were associated with increased risks of poor recovery, burnout symptoms (depersonalisation and exhaustion), and work-home interference. The risk of adverse psychological health as measured by these indicators was not systematically higher for workers reporting low rewards and overtime than for workers reporting low rewards but no overtime. However, the combination of overtime and low rewards was associated with elevated risks of home-work interference, whereas the combination of no overtime and low rewards was not. In conclusion, overtime in low reward jobs is accompanied by adverse psychological health in terms of poor recovery, burnout symptoms and work-home interference (risks were about 2 to 3 times higher than in the control group), but this seems to be related more strongly to low rewards than to the long working hours. Home-work interference was found to be the only indicator of psychological health that was specifically associated with the combination of overtime and low rewards.

An additional analysis focused on employees who worked overtime only. Four groups were created based on rewards and reported pressure to work overtime. Employees who reported high rewards and a low pressure to work overtime were used as a reference group. It can be presumed that these employees work overtime voluntarily. A high pressure to work overtime was not associated with elevated risks of adverse psychological health, as long as the experienced rewards were high. As in the previous analysis, low rewards were associated with reduced psychological health, in particular psychosomatic complaints and exhaustion, even when the pressure to work overtime was found to be low. If the pressure to work overtime was high, these risks were found to increase. The combination of low rewards and high pressure to work overtime was associated with adverse psychological health on all indicators (risks were 2.6 to 8.1 times higher than in the control group). It can be concluded that moderately long working weeks (under 50 hours for most workers in the sample) when job rewards are high, is not associated with adverse psychological health, even if the pressure to work overtime is high. However, if job rewards are low, pressure to work overtime is accompanied by increased risks of adverse psychological health. Stated differently, these data suggest that even a limited number of hours of involuntary overtime work is associated with adverse psychological health, but only in low reward situations.

References


Workers' Well-being - The Resource of Small Workplaces
Part B: Training of Occupational Health Personnel in Treatment and Prevention of Occupational Burnout

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In Finland the occupational health service (OHS) plays an important role in the maintenance of employee health and well-being. However, some of the Finnish occupational health personnel nowadays lack adequate competence to practice at the organisational level. Due to this shortcoming, OHS units were given training in the treatment and secondary prevention of occupational burnout at work.

Introduction

Workplace health promotion includes at different levels of the organization a range of preventive and corrective activities. For instance, measures focus on: 1) individual human resources (e.g. stress management, competence and work ability); 2) human relations (e.g. clarity of work role, dissemination of information, collaboration) and 3) work environment (e.g. tools and equipment). Many empirical studies have indicated that the workers' health is affected negatively by organisational factors such as demanding work, lack of opportunities to influence one's work, poor organisation of work, poor leadership skills or a lack of other competencies.

Without corrective actions, these work-related problems can cause serious health problems. One serious health problem facing Finland today is occupational burnout. According to the study by Kalimo and Toppinen (1997) over 50 % of Finnish working people displayed some burnout symptoms and 7 % suffered from severe occupational burnout. At the individual level burnout reduces work competency and impoverishes the quality of life. Also the increase in sick leave places demands on the organization to reorganisation work tasks and adds additional costs to the enterprise. At its worst, untreated occupational burnout can lead to depression, and subsequently to early retirement. For example, in Finland the work ability of every forth person who suffered from depression had decreased and 7 % of them were totally disabled.

In small and medium-sized enterprises, workplace health promotion is problematic. Often there is a shortage of resources and little in the way that the organization can do to deal with the consequences of burnout. These enterprises have limited resources for long-term strategic planning and for other developing appropriate measures. Therefore, occupational health services are needed, and they play an essential role in providing activities to maintain work competence (Ministry of Social Affairs and Health, 1999). A survey revealed that almost 80 % of the workers rated OHS as an important source of advice in the maintenance of the workers' work abilities. The services of occupational health personnel are needed at different phases of development activities: e.g. survey, planning, organising, and evaluation. Furthermore, the enterprises depend on the advice of the OHS, when they encounter problems such as burnout, change (reorganisation, mergers), human relations problems, or increased sick leave (Lindström & Schrey, 1997).

Competence of OHS in Finland

In Finland, the current Occupational Health Service Act and the reports on the development of the services (Good Occupational Health Practice, 1997) stress the importance of the prevention of work-related problems. The main goal of preventive occupational health services is a healthy and safe physical and social work environment, a well functioning work unit and the maintenance of the workers' work ability (OHS body of laws in 1996).

Finnish representatives of workers' interest groups have emphasised the maintenance of work ability and workplace health promotion (Ylöstalo, 1999). Workplace health promotion requires OHS activities, which are quality-oriented and outcome-oriented. According to current opinion, surveys of problems are not enough; the OHS should also contribute to the development of working conditions and natural work units. In a report on the national developments of OHS in Finland (Rossi 1998) the Ministry of Labour stated that OHS should change over from individual-oriented practises towards the organisation of work and the development of leadership skills, human relations in the work group and better collaboration.

However, the current Finnish OHS system still focuses too much on individual health care (Ministry of Social Affairs and Health, 1998). In most cases, the activities are planned at the individual level due to the lack of adequate competence in-group level activities. The FIOH delivered to the Ministry of Social Affairs and
Health in 1998, a statement that defined the minimum professional competence for OHS personnel. According to this definition, the OH professionals should: 1) understand the principles of workplace health promotion, 2) be able to initiate activities, 3) have knowledge of possible interventions and actors (e.g. existing measures and tools, necessary facilities, available experts), 4) be able to communicate issues surrounding the situation (listen to the work groups and individual workers), 5) ask for an outside consultant if needed, and 6) take part in development projects and evaluations.

The OHS training program

The OHS training program was implemented as a result of the shortcomings of OH professionals in respect of their ability to promote workplace health. The training program was part of a project called 'Workers' well-being - The resource of small workplaces'. The Uusimaa Regional Institute of Occupational Health carried out the project in 1998-1999. The project was divided into two parts. Part A focused on the small enterprises’ own activities in developing workplace health. Part B was designed to train the occupational health professionals in the promotion of workplace health. The emphasis was on developing working models for the prevention and treatment of occupational burnout.

Participants

Altogether 31 professionals from eight occupational health service units took part in the project (11 physicians, 17 nurses, 3 physiotherapists). Three units operated in municipal health care centres and five in private medical centres. In each unit, the team of professionals chose one small workplace as a case example. The selection criterion was that in the given workplace the workers had experienced stress symptoms. These eight workplaces were: a trade union, a real estate agency, an advertising agency, a restaurant, a block of service flats, a metal workshop, an industrial laundry, and a dental clinic.

Activities

1) Survey of the OHS professionals' current practices

The working methods of the OHS professionals were surveyed by semi-structured interviews. These interviews revealed several problems in OHS practices. First, the prevention of burnout was difficult because of a lack of knowledge and the availability of tools for assessing burnout levels. Secondly, there were shortcomings in planning and in the initiation at the workplace of needed corrective measures. It was difficult for some professionals to go to the workplace and discuss with the managers the need for corrective actions. The situation was even more difficult in small workplaces because exhausted workers could be easily identified, these workers often didn't want any measures to be taken and frequently asked the OHS professional to be quiet about their problems. Thirdly, the OHS units also had problems of their own, e.g. poor collaboration and vague distribution of work. Consequently, many of these professionals therefore worked alone without any team support.

2) The training

The training consisted of a 4-day course plus assignments. The training emphasised: 1) the recognition of occupational burnout, and the identification of suitable assessment methods; 2) stress management at the individual level; 3) stress management at the organisational level; and 4) the OHS professionals' own stress management (see Appendix).

3) Counselling

The multi-professional OHS teams were offered 21 hours of consultation. The consultation focused on: 1) the appraisal of problems at work and the workers' symptoms; 2) former OHS interventions and previous attempts at solving the work problems; 3) a survey of the present situation, and feedback after the survey; 4) the planning of interventions for health promotion and stress management.

The case enterprises and measures of OHS

The workload and work pace had increased in the selected enterprises. Consequently, the workers experienced stress, exhaustion and musculoskeletal symptoms. In addition, there were also long-term conflicts among the workers in many workplaces.

In the consultation meetings, the problems of the workplaces were discussed and analysed together by the OHS team. Initially the OHS was asked if it had tried to solve the workplace problems earlier, and if so, why had their interventions not succeeded? Secondly, what information was available was appraised. If the team thought that they lacked important information, survey methods were considered.
Enterprise measurement by the OHS then proceeded according to a number of phases (Table 1). These phases included: 1) preliminary analysis of problems and the planning of further actions, 2) analysis of problems and proposals for action, and 3) a survey and proposals for action.

In two of the enterprises (the advertising agency and the metal workshop) the OHS only reached the preliminary problem analysis phase and the planning of further actions. This was due to high employee turnover in these OHS units.

One enterprise (the industrial laundry) had already conducted a survey i.e. the Occupational Stress Questionnaire (Elo, 1992) as a result of which they had reorganised the work and shifted to teamwork. However, teamwork proved to be too difficult. Therefore, the OHS concentrated on consultative meetings to consider the fundamentals of teamwork and to analyse the problems related to working in teams. The OHS held a meeting with the supervisors and workers. In this meeting the teamwork problems were openly discussed, and the OHS suggested proposals for actions. In the end the workers went for teamwork training.

In two enterprises (the block of service flats and the dental clinic) the OHS tried initially to support the exhausted worker through individual measures (e.g. supportive discussions), but to solve the problem required a survey of the whole work unit. The survey methods used were the Occupational Stress Questionnaire (the real estate agency) and the Resources at Work Questionnaire (the trade union, the restaurant, the block of service flats, the dental clinic). Furthermore, in one enterprise the OHS itself carried out an intervention directed at groups in order to improve the poor work climate. The OHS carried out a number of meetings in which they discussed ways for developing meeting practices. In addition, the OHS also encouraged the workers to promote health issues by showing them a video called "Happiness at work".

Table 1. Measures conducted by occupational health services in enterprises

| Preliminary analysis of problems and planning of further actions: |
|---|---|
| advertising agency |
| metal workshop |
| Analysis of problems and proposals for action: |
| industrial laundry |
| A survey and proposals for action: |
| trade union |
| real estate agency |
| restaurant |
| block of service flats |
| dental clinic |
Results

Evaluation of benefits
According to the quantitative and qualitative assessments, the OHS training project developed the participants' professional skills in relation to the prevention and treatment of occupational burnout. For example, most participants (73 %) rated that they had benefited much or very much from the consultations that focused on the planning of work.

Training
According to the ratings, the training increased the professionals' knowledge of occupational burnout. More than half of participants (59 %) felt that they were capable of assessing burnout. The participants reported that they had received knowledge on how to recognise burnout, in addition to tools for assessing the level of burnout. Participants also found that, after the training it was easier to make a distinction between occupational burnout and clinical depression.

Moreover, the training gave advice on how to support the people suffering from burnout. According to the ratings, supportive discussions with those suffering burnout were perceived to be easier after the training. The participants reported, that it was easier to deal with the problem of burnout. More than half (55 %) rated that they now had at the individual level more knowledge and capability for prevention of burnout.

The participants also gained an insight into organisational processes, as they familiarised themselves with inquiry methods and working models. A majority of the participants (59 %) rated, that they had more knowledge in the development of work communities. They felt, that the training had given know-how to advance from supportive discussion to helping the clients set new goals and to solve the problems together with his/her work mates. Some of the participants received positive feedback from their clients about their new procedures. The training also provided new insights into understanding the process of burnout syndrome at the level of the work unit.

In addition, the professionals reported that their own health had improved and that teamwork had increased during the project. A majority of the participants (59 %) reported that the training had provided them with tools for promoting their own health at work. The participants' stated that their competence and self-assurance had increased, as had their willingness to implement the suggestions offered by their own work team.

Consultations
The participants reported that the consultations were very useful. They felt that the consultations helped to develop the acquired knowledge and skills. Work issues were tried out in practice. The consultations were considered to be beneficial when working with a chosen case enterprise.

Most of the participants indicated that the consultations were useful in the planning of their work (73 %). The consultations were perceived to give a new perspective to the problems at both the individual and organisational levels. More than half (55 %) thought that the consultations were beneficial in helping to carry out the work in the selected workplace. According to the ratings the consultations make it easier to deal with difficult issues and to give feedback at the workplace. The consultations encouraged the participants and for some of them it was easier to establish a relationship with the customer enterprise and to discuss the prevention and treatment of occupational burnout.

The consultations were most useful for the participants' own health. Most of the participant’s thought, that the consultations helped to promote their own health care (77 %). Furthermore, the participants felt that the consultations had helped to support teamwork (59 %). According to the ratings, the consultations contributed positively to the discussions among the team members, and they had more time for their meetings.

References


Appendix

Modules

1. Occupational burnout syndrome
   a. Lectures
      Research results of the occupational burnout syndrome (the concept, causes, development of the syndrome, prevalence)
      Assessment methods (Maslach's Burnout Inventory, Bergen's Burnout Indicator)
   b. Exercise
      Assessment of burnout level by transcripted interviews

2. Individual prevention of occupational burnout
   a. Lectures
      Personality and stress management
      Interview procedure
      Motivation
   b. Exercises
      i. The participants' case examples of poor intervention in individual stress management
         - Causes of stress?
         - Customers' symptoms?
         - Interventions, measures and possible causes of failure?
      ii. The participants' case examples of successful interventions in individual stress management
         - Causes of stress?
         - Customers' symptoms?
         - Interventions, measures and possible reasons for health promotion?

3. Organisational prevention of occupational burnout
   a. Lectures
      Structure and dynamics of a work community
      Survey methods (Occupational Stress Questionnaire, Resources at work Questionnaire)
      Development project
   b. Exercise
      i. The participants' opinions and experiences about the common difficulties that OHS encounter in workplace health promotion
      ii. The participants' case examples of successful health promotions projects
         - Initial situation before intervention
         - Methods of data collection
         - Development model
         - Measures and objectives
         - Commitment of management to collaboration in a development project
         - Corrective actions

4. Work health promotion in OHS
   a. Lectures and discussions
      Roles of OHS in work health promotion
      Well-being of OHS personnel
      Human resources and creative problem-solving methods
   b. Exercise.
      The participants own goals and needs in their work
Consequences of Workplace Violence and Bullying on Workers' Mental Health and Job Satisfaction

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This study investigated the relations between work-related violence (violence from the part of the inmates/clients and bullying) and mental health, stress and job satisfaction. Two surveys were conducted on prison workers (N=1347) and pharmacists (N=151). The most common form of violence experienced by both prison staff and pharmacists was verbal violence (verbal abuse and threats). Significant relations were found between exposure to violent assaults by the inmates/clients as well as stress, mental health and job satisfaction.

Introduction

There is growing public concern over the increasing amount of work-related violence and its effects on health. Workplace bullying is reported to be one of the fastest growing forms of workplace violence (Violence on the Job, 1998). According to the European Survey on the State of Occupational Safety and Health in the European Union, 4% of workers had been physically assaulted during the last twelve months in the surveyed countries. On average, 8% of people felt they were targets of workplace bullying and victimization (European Agency for Safety and Health at Work, 2000). The nationwide computer-assisted telephone interview study of work and health, conducted by the Finnish Institute of Occupational Health, found that 4.1% (n=2156) of Finnish workers in 1997 and 5.1% (n=2053) in 2000 had been either threatened or assaulted at work (Pirainen et al. 2000). At the time of the interview, 3.6% in 1997 and 4.3% in 2000 felt that they had been targets of workplace bullying. In addition, 6.5% in 1997 and 10.2% in 2000 reported that they had previously experienced bullying, but no longer did. The survey results from the Finnish National Research Institute of Legal Policy in 1980, 1988, 1993 and 1997 show that work-related violence against women, in particular, has been increasing since 1980. All kinds of violence in the workplace can affect victims' health and have consequences such as psychological trauma (Flannery, 1996). Many authors have reported a significant association between workplace bullying and workers' health and well-being (Einarsen & Raknes 1997, Leymann 1992, Vartia, 2000)

Aim

This study investigated the effects of threats of violence, verbal abuse and assaults at work, threats to family members and workplace bullying, on the stress, mental health and job satisfaction of workers.

Method

The results of two studies are presented. The first focused on prison work, which is traditionally classified as an 'occupation of violence', where violence seems to be an integral part of the job. A questionnaire was administered to all prison workers in Finland, of whom 1870 responded, representing a response rate of 64%. This paper examines the results in three personnel groups: prison guards (n=915), work counselors of inmates (n=294) and prison health workers (n=138). These personnel groups work in closest contact with the inmates and are most often experience violent situations in prisons. Of the respondents in these three groups, 78% were men and their mean age was 41.4 years (Std 9.3). A shorter questionnaire survey was administered to pharmacists, who work in a female-dominated occupation. 151 pharmacy employees responded to the questionnaire, a response rate of 61%. Of the respondents, 90% were women, and their mean age was 40.7 years (Std 10.56).

Violence against the staff by prison inmates or pharmacy clients was measured using a list of violent behaviours with a severity range from verbal insults, harsh criticism and shouting to violent physical attacks such as hitting or shooting with a gun. Workplace bullying was assessed with one question. First, a definition of bullying was given, and the respondent was then asked if he/she had been subjected to such negative behavior in the last six months. General stress was assessed with a single question, which has been shown to be a valid measure (Elo et al. 1999). Mental health was assessed using the 12-item version of the General Health Questionnaire (Goldberg 1972). Job satisfaction was assessed with one question: "How satisfied are you with your present work?". The response format was a five-point scale. Impending violence, violence as a risk for health and well-being at work, and the experienced effects of violence on the respondent's job satisfaction were each assessed with one question.
Results
Sixteen per-cent of prison workers and only 1% of pharmacy employees had often or continuously felt impending threats of violence, or 'violence in the air'. In addition, 39% of prison workers and 11% of pharmacy employees had felt impending violence every now and then in their workplace. Both in prisons and pharmacies, the most common form of violence was verbal violence (verbal abuse and threats). Of prison respondents, 84% had been subjected to verbal abuse and harsh criticism, and 68% had been verbally threatened at least once during the year preceding the survey. Threats against family members were reported by 16% of prison staff. One in four (25%) prison workers had been threatened with physical violence or assaulted at least once during the year preceding the survey. 13% reported that inmates had threatened to hit them or stab them with a weapon, 11% had been prevented from moving (blocked), and 11% had been pushed or shoved around. Of pharmacy respondents, 54% had been insulted, and 30% had been verbally threatened at least once during one year. Altogether, 3% had been pushed at least once or twice every year. Among the respondents, 21% of prison workers and 13% of pharmacy employees felt that they were targets of bullying.

Twenty-one per-cent of prison workers and 9% of pharmacists felt much stress at the time of the study. In addition 26% of prison workers and 19% of pharmacists felt some stress. The mean score of the GHQ-12 among prison staff was 2.1 (Std 0.55). Altogether 39% of prison staff and 23% of pharmacists were at least somewhat dissatisfied with their work. Of prison guards, work counsellors and health workers, 30% considered that the threat of violence at work put their well-being at high risk. Among pharmacy employees, the corresponding rate was 13%.

The survey found significant associations of violent assaults and workplace bullying with reported general stress, mental health and job satisfaction. Among prison staff, job satisfaction was most strongly related to impending violence (r = -.39, p<.001) and verbal abuse and threatening (r = -.32, p<.001). Mental health was most strongly related to bullying (r = .29, p<.001). Work-related violence explained 17% of the variation in mental health symptoms and reported stress, as well as 12% of the variation in job satisfaction among the prison staff. Violence from inmates alone explained 9% of mental symptoms and 8% of job dissatisfaction. In pharmacies, as in prison work, exposure to clients' insults and bullying showed a significant correlation to reported stress and job dissatisfaction. As many as 58% respondents from prisons and 28% from pharmacies felt that the violence they experienced at work had a lowering effect on their job satisfaction.

Conclusions
The present study supports the findings of earlier research on the association between experienced stress and workplace violence. It also shows that violence by inmates and violence inside the work unit have somewhat different associations with mental health than with job satisfaction. The study supports the comments of one of the prison workers who was interviewed, "You can always put up with the deviant behaviour of inmates, but conflicts with your work mates or superiors and their nastiness is too much".

References
Subjective Workload and Stress – a Comparison Between Air Traffic Control Students and Experienced Air Traffic Controllers

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This study aims at understanding the relationship between subjectively experienced workload and stress and the amount of on-the-job experience of air traffic controllers. Three groups of subjects were studied. One group of ATC students at the beginning of their training (n=6), one group at the end of their training (n=8) and one group of air traffic controllers with five or more years of experience (n=5). All subjects performed two simulated 30 minute ATC radar exercises, one “easy” and one “difficult”. After each simulation the subjects rated their subjective workload using NASA-TLX and their stress arousal using SACL. The results show that the workload ratings are significantly higher after the difficult simulation than after the easy (p<0.0001 to p=0.006) except for the subscale performance. There are also significant differences between the three groups of subjects on all NASA-TLX subscales except performance (p<0.0001 to p=0.048) indicating that the more experienced the controller is, the less is his experienced workload. The less experienced controllers show a larger degree of stress arousal on SACL. A performance rating showed the beginner students to have lower ratings than the advanced students who, in turn, had slightly lower ratings than the experienced controllers.

Introduction

With an average annual increase in air traffic in Europe of 5%, a lot of interest has focused on air traffic control and how to increase capacity in the congested skies of Europe without compromising safety. At present the main trend seems to be towards new technical systems (i.e. more advanced radar, datalinks for communication, computerised flight plan information) and a higher degree of automation (conflict detection and alert systems). For a more extensive overview of this development see Hopkin (1999). Apart from allowing an increase in capacity the new systems also aim at reducing controller workload. In an analysis of air traffic control related incidents (mainly separation infringements), Weikert & Johansson (1999) found that air traffic controllers with less than two years on-the-job experience were overrepresented among those having had incidents. It was also found that incidents mainly occur during low to moderate traffic intensity. This may seem somewhat contradictory as incidents frequently are viewed as things that happen because of overload. The present study therefore aims to understand the relationship between subjectively experienced workload and stress and the amount of on-the-job experience of air traffic controllers. The main hypothesis is that the less on-the-job experience the higher the amount of subjectively experienced workload and stress.

Method

Subjects

A total number of 19 subjects divided into three groups participated in the study. One group consisted of 6 (5 male, 1 female) air traffic control students at the beginning of their training, one of 8 (5 male, 3 female) students at the end of their training and one of 5 (4 male, 1 female) air traffic controllers with five or more years on-the-job experience.

The original design included a group of air traffic controllers with two years or less on-the-job experience. Due to time constraints and duty rosters this group was not available.

Apparatus

Subjective mental workload was assessed with NASA-TLX (Hart & Staveland, 1988) and stress arousal with the Stress Arousal CheckList, SACL (Gotts & Cox, 1990; Swedish translation by Johansson & Weikert). To establish the relative importance of the NASA-TLX subscales to subjects in their normal work situations, a questionnaire with paired comparisons of all the subscales was used (Eurocontrol, 1999).

The simulations were performed at the Simulation Facilities of the Swedish Air Traffic Services Academy at Malmö-Storeup airport. The exercises (one “easy” and one “difficult”) were selected by instructors at the Academy. Each exercise was of 30 minutes duration. All sessions were recorded.
Procedure
Before the simulations, all subjects filled in the paired comparison questionnaire. All subjects first performed the “easy” task and then the “difficult” task. After each simulation they were required to fill in NASA-TLX and SACL. There was no trial run.

Results
The paired comparisons of the NASA-TLX subscales show that for the beginner students mental load is the most important aspect of workload followed by time pressure and performance. For the advanced students, performance comes first followed, by mental load and time pressure. The experienced controllers also put performance first followed by mental load, whereas time pressure does not seem to be of importance for this group.

The results on the NASA-TLX for the three groups are shown in tables 1 – 3.

Table 1. Mean ratings on NASA-TLX for beginning students

<table>
<thead>
<tr>
<th></th>
<th>Mental load</th>
<th>Physical load</th>
<th>Time pressure</th>
<th>Performance</th>
<th>Effort</th>
<th>Frustration</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Easy”</td>
<td>3.06</td>
<td>1.05</td>
<td>1.32</td>
<td>8.80</td>
<td>2.40</td>
<td>0.75</td>
</tr>
<tr>
<td>“Difficult”</td>
<td>8.22</td>
<td>3.30</td>
<td>7.07</td>
<td>5.83</td>
<td>8.22</td>
<td>4.05</td>
</tr>
</tbody>
</table>

Table 2. Mean ratings on NASA-TLX for students at the end of training

<table>
<thead>
<tr>
<th></th>
<th>Mental load</th>
<th>Physical load</th>
<th>Time pressure</th>
<th>Performance</th>
<th>Effort</th>
<th>Frustration</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Easy”</td>
<td>1.23</td>
<td>0.86</td>
<td>0.91</td>
<td>8.28</td>
<td>1.99</td>
<td>1.10</td>
</tr>
<tr>
<td>“Difficult”</td>
<td>5.53</td>
<td>2.29</td>
<td>5.08</td>
<td>8.11</td>
<td>5.75</td>
<td>1.58</td>
</tr>
</tbody>
</table>

Table 3. Mean ratings on NASA-TLX for experienced air traffic controllers

<table>
<thead>
<tr>
<th></th>
<th>Mental load</th>
<th>Physical load</th>
<th>Time pressure</th>
<th>Performance</th>
<th>Effort</th>
<th>Frustration</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Easy”</td>
<td>1.28</td>
<td>0.48</td>
<td>0.76</td>
<td>7.44</td>
<td>1.12</td>
<td>1.44</td>
</tr>
<tr>
<td>“Difficult”</td>
<td>4.52</td>
<td>1.30</td>
<td>5.28</td>
<td>7.36</td>
<td>5.34</td>
<td>2.42</td>
</tr>
</tbody>
</table>

All differences in tables 1 – 3 are statistically significant (p<0.0001 to p=0.006) except for the subscale performance. It is however interesting to note that the beginners rate their performance in the difficult simulation lower than in the easy simulation while the advanced students and the experienced air traffic controllers show almost no difference in their ratings. There are also significant differences (p<0.001 to p=0.048) between the three groups on all NASA-TLX subscales except performance, indicating that the more experienced the air traffic controller the less the experienced workload.

The main results from the SACL show that during the difficult simulation, all six subjects in the beginner group report being tense and four of them jittery; versus three tense and two jittery in the easy simulation. Two out of eight of the advanced students report being tense and one jittery in the easy simulation and after the difficult simulation, three report being tense and one jittery. One of the experienced air traffic controllers reports being tense in both simulations. The rest of the group reports being more tired, sleepy and drowsy in the easy simulation.

The performance of the subjects in the two simulations was also assessed. All subjects performed well in the easy simulation but not so well in the difficult simulation. Subjects’ performance in the difficult simulation was rated by two independent raters in accordance with criteria given by instructors at the Academy. The main criteria were ‘possible near misses’ and ‘efficient use of airspace’. The raters only disagreed in three cases out of 19 and then only with one unit. The beginner students had lower ratings than the advanced students who, in turn, had lower ratings than the experienced controllers. There was not a marked difference between the two later groups.

Discussion
The results of this study support the hypothesis that the lower the amount on-the-job training, the higher the subjectively experienced workload. It also shows that experienced workload increases with increasing difficulty of the task. Furthermore, the less experienced subjects show a higher degree of stress arousal as measured by the SACL. This might partly explain why relatively inexperienced air traffic controllers (two years or less on the
job) are overrepresented among those controllers having had incidents (Weikert & Johansson, 1999). It is interesting to notice that the NASA-TLX subscale performance does not yield any significant differences between groups or simulations. For the beginners however, a decrease in the rating of own performance can be accounted for by the difficult simulation, which might be expected due to their lack of experience. A recent study by Backs, Navidzadeh and Xu (2000), concerned with cardiorespiratory indices of mental workload during simulated air traffic control, also used NASA-TLX with similar results. Three scenarios with increasing difficulty were used and mean NASA-TLX scores differed significantly between scenarios, increasing with scenario difficulty. The subscale ‘performance’ showed no difference between the medium and high workload scenarios. The subjects used in the study by Backs et al (2000) did not differ with regard to experience.

To work as an air traffic controller implies the use of a lot of information processing, including extensive use of working memory. In order to achieve an adequate performance, the beginner students have to allocate more resources to the task in hand than the advanced students and the experienced air traffic controllers, and thus they experience more workload. In the process of training as an air traffic controller they learn more efficient ways to handle information and they learn to use different memory aids.

This study has provided some insight into air traffic controllers’ experience of workload and stress. The measures used to assess workload and stress (NASA-TLX and SACL) have proved useful. Further research in this field should include physiological measures of workload and stress, e.g. heart rate variability and stress hormones. The group of subjects should include a wider variety of levels of experience. If possible, some data should be collected during or immediately following actual air traffic control work.

References


Group Therapy for Burnout Teachers in Child Daycare Units

J. Wieclaw

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This study deals with treatment for child daycare unit teachers, who are on sick leave because of severe burnout symptoms. 10 group psychotherapeutic sessions were provided in a period of 3 months, with 3 and 6 month follow-up sessions. General health, burnout, depressive symptoms and several personality dimensions were assessed before and after the therapy. Symptoms of emotional exhaustion, stress, deteriorated health and neuroticism decreased at the end of therapy. Participants reported fit for work, regained a feeling of competence and made specific plans for their professional futures. Group psychotherapy was found to be an effective method of treating burnout.

Background of the study

Since Freundenberger first published his article on burnout in 1974, there has been a tremendous interest and development in studies on burnout. Especially the framework and measurement instrument (MBI) developed by Maslach and Jackson (1976) has been widely applied both in the United States and Europe. In this context burnout is defined as “a syndrome of emotional exhaustion, depersonalization and reduced personal accomplishment that occurs among individuals who do “people work” of some kind” (Maslach and Jackson, 1986). The Maslach Burnout Inventory is designed to measure all three dimensions.

There are many theoretical, conceptual and measurement problems related to the concept of burnout and a primary research focus has been directed towards exploring some of these measurement issues (Schaufeli, Maslach and .Marek, 1993; Schaufeli and Enzman, 1998). Maslach’s approach is still, however, the most widely used both in research and diagnosis. Mainly cross-sectional studies have been carried out on the causes, correlates and consequences of burnout. The results from a few longitudinal studies are inconclusive (Schaufeli and Enzmann, 1998). Theoretical explanations of burnout involve individual, interpersonal and organisational perspectives.

Another emphasis in terms of burnout research has been on issues of prevention, intervention and the treatment of burnout. Intervention studies can be classified into three groups: (a) those that focus on the individual; (b) those with an individual/organisation interface; and (c) those that focus on the organization (for an overview see Schaufeli and Enzman; 1998). Most interventions aim to reduce risk factors or change the ways individuals respond to stressors. In the treatment of burnout symptoms, stress management techniques or psychotherapy based on a cognitive-behaviour modification approach are frequently applied (Lowman, 1993) although from a review of the literature it has not been possible to find studies specifically referring to the use of group psychotherapy in the treatment of persons who are actually burned out.

The Department of Occupational Medicine and Psychology, Aarhus University Hospital, has in recent years received many patients with symptoms of burnout. A relatively high number of persons referred were employed as teachers or leaders in child daycare units in the county of Aarhus.

As a result of the high number of burned out teachers referred to the hospital, the Department started in collaboration with the employer (Aarhus County Consul) and Daycare Teachers Union a project providing group psychotherapeutic treatment for this group of patients.

The aims of the study

(1) To provide treatment for child daycare unit teachers who were suffering from severe burnout symptoms, (2) to understand the nature and development of the burnout process, (3) to investigate the effectiveness of group therapy in the treatment of burnout symptoms.

Study group

The study group comprised 13 women teachers from different child daycare units in the town of Aarhus. These women had been referred by their Union to the Department of Occupational Medicine and Psychology at Aarhus University Hospital with burnout symptoms. At the time of the study all were on sick leave. Their average age 44 years (33-53), average years of employment 15 (3-30), and all were married and had children.

Method

All the teachers participated in an interview lasting three hours. The interview covered such areas as their background and working conditions and each was asked at the time of the interview to complete a number of questionnaires (Selyes Stress Test, General Health Questionnaire-60, Eysenck’s Personality Questionnaire,
The participants. Both groups continue to meet after ended therapy program, thus establishing a informal supportive network for
illustrates the nature of the experience: derived motivation, energy and optimism from following each other's progress. The following quotation
the feelings of togetherness, understanding and solidarity in the group. Participants learned from each other and
problems reflected in those of others, thus breaking the feeling of isolation and "specialness". They appreciated
exchange ideas, to inspire and help each other. Participants especially valued the opportunity to see their own
therapy sessions was seen as a very useful opportunity to continue to work on inputs from the therapy, to
the other participants, as well as of the therapists, for their recovery. The hour informal gathering following the
All participants expressed their satisfaction with the group therapy and emphasised the importance of
needed and appreciated work, rather than in difficulties directly related to work with children (clients).
We found that the source of teachers’ burnout symptoms lay primarily in unsatisfactory relations with
their colleagues and superiors as well as in feelings of disillusion and poor conditions for doing meaningful,
and showed a middle order level of depressive and neurotic symptoms. Only middle to low levels of
depersonalisation symptoms were found. Participants made equal use of both active and passive coping
strategies. Overall their self-esteem was low and they were very much in doubt as to their professional future. They felt confused, powerless and without being in control of their lives. Many experienced serious attacks of anxiety and their social contacts were very limited.
At the end of the therapy, the general health of the participants had improved and symptoms of stress and emotional exhaustion had diminished significantly. Only two showed a middle order level of depression, and one had a high level of neuroticism. They had all made decisions about their future job situation and now showed higher self-esteem, confidence and self-control. They were able to use their social network and believed in their professional and life competence. There were no signs of fall back at the 3 and 6 months follow-up check-sessions, though one of the participants had difficulty in carrying out the decision she had made and was having private psychotherapy.
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and emotional exhaustion had diminished significantly. Only two showed a middle order level of depression,
which was more serious, insecure and full of “heavy” emotions to a more light, optimistic, secure, confident one,
alternating between tears and laughter.
At the end of the group therapy, each participant was again interviewed about her attitude to work and
her future job plans as well as about her perception of her professional and life competence. Participants were once again asked to take the same tests and give an estimation of their self-esteem.
Interview data and test measures before and after therapy were compared. Participants were also asked to give an oral and written evaluation of the therapy sessions. Records of the content of therapy sessions were used to analyse the nature of burnout. There were follow-up sessions 3 and 6 months after the end of therapy in order to check the stability of the participants’ recovery.

Results
At the beginning of the study, all participants showed severe symptoms of emotional exhaustion and impaired professional competence as well as stress symptoms. They perceived their general health as having deteriorated; and showed a middle order level of depressive and neurotic symptoms. Only middle to low levels of depersonalisation symptoms were found. Participants made equal use of both active and passive coping strategies. Overall their self-esteem was low and they were very much in doubt as to their professional future. They felt confused, powerless and without being in control of their lives. Many experienced serious attacks of anxiety and their social contacts were very limited.

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All participants expressed their satisfaction with the group therapy and emphasised the importance of the other participants, as well as of the therapists, for their recovery. The hour informal gathering following the therapy sessions was seen as a very useful opportunity to continue to work on inputs from the therapy, to exchange ideas, to inspire and help each other. Participants especially valued the opportunity to see their own problems reflected in those of others, thus breaking the feeling of isolation and “specialness”. They appreciated the feelings of togetherness, understanding and solidarity in the group. Participants learned from each other and derived motivation, energy and optimism from following each other’s progress. The following quotation illustrates the nature of the experience:

“The group form has been better for me than individual therapy, because I would have felt even more strange and deviant, when confronted with a person who had not had the same background. I felt very secure, both because I felt confident in your (therapist’s) professional skills and because of other participants. It was good that we were not at the same stage in the process, as we could be of better help to those who felt bad and could see and hear that it is possible to get better. I am no longer afraid that I am not good enough. To listen to the dialogue with others was almost as useful to me as when it was me who was “on”. There were more common features than I expected”.

Both groups continue to meet after ended therapy program, thus establishing a informal supportive network for the participants.
Discussion

Emotional exhaustion was the predominant symptom. This raises the issue of the discriminant validity of this concept and possibly the whole of MBI, because emotional exhaustion is closely related to psychosomatic symptoms, stress symptoms, job satisfaction and depression. In line with other Scandinavian studies (Söderfeldt, 1996) the level of depersonalisation was rather low. This can partly be explained by the fact that participants perceived unsatisfactory interpersonal relations at the organisational level as a cause of their burnout, rather than problems concerning their relationship with children (clients). It can also be looked at as a cultural phenomenon, as it could be “politically correct” to have a strong, negative reaction in relation to clients. With regard to the individual approach to burnout, the participants seem to have some of the personality features which are known to increase the risk of developing burnout, such as a strong sense of responsibility, over-commitment, high (unrealistic) job expectation and weak self-efficacy beliefs (Meier, 1983; Lowman, 1993; Van Yperen, 1998). Additionally, their burnout symptoms seem to be related to a lack of opportunity to do an existentially meaningful and significant job, thus lending support to Pines’ existential explanation of the nature of burnout (Pines, 1993). Loss of meaning of work can in turn have a negative impact on participants’ self-esteem (Bernier, 1998).

However, participants also referred to a lack of resources as well as a problematic relationship with the “system”, superiors and colleagues as a principal cause of strain and problems in their jobs. All in all it seems that the sources of burnout lie at the organisational level, in the nature of the relations between employee and organisation, rather than at the interpersonal level in the relations of the care-giver and the recipient. The Buunk and Schaufeli (1993) model based on social exchange/equity theory with a more specific focus on the violation of the psychological contract may provide a useful explanation of this process. Leiter (Leiter, 1992) proposes that a lack of resources is related to depersonalisation and lack of personal accomplishment, which was only partly confirmed in this study.

Participants in this study seemed to have had problems with inadequate self-efficacy skills within the interpersonal and the organisational domain (Cherniss, 1993), which again lends support to the interpersonal approach to the understanding of the burnout process.

Our judgement of the effectiveness of the group therapy method is based on qualitative data from participants’ written and oral evaluation, analyses of the therapy process and our own therapeutic experiences. Thus, it lacks more objective and comparative evaluation. However our results seem to suggest that it is a useful method of dealing with burnout symptoms, especially if therapy is focussed on a highly specific social context like work and its problems Equally, as participants’ problems mainly concerned interpersonal and organisational skills, the group also provides a very useful training ground for them. Furthermore, it seems useful to combine formal and informal sessions.

Limitations of the study

The main limitation of the study is a biased selection of subjects as well as their small number. Diagnostic methods also have several weaknesses, and the mixture of qualitative and quantitative methods makes this study unclear both in its design, method and analyses. This raises the question of validity and generalisation of the study. Still, we consider it as an explorative study into an interesting area of research.

Conclusions

The present study seems to support interpersonal and existential hypotheses about the nature of the burnout process, with a serious stress reaction in the form of emotional exhaustion and low self-esteem as main symptoms. The findings suggest that group therapy can be a very effective method of treating burnout symptoms. Further comparative studies are however necessary.

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Stress Prevention Training for Teachers

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(2) TNO Work and Employment, Hoofdorp, The Netherlands
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Introduction and objective
International research has shown that stress is greater for teachers than for many other professional groups. Prolonged occupational stress can lead to physical and mental ill-health and may lead to impaired job performance. In addition, it may lead to stress related disability and early retirement from the profession.

In Ireland, there has been a long-standing interest in the area of stress in the teaching profession by the trade unions, which represent teachers. As long ago as 1992, the three major primary and secondary level teachers unions commissioned a national survey of stress amongst teachers. The aim of the survey was to bring to the attention of employers the extent of the problems associated with occupational stress. In addition, they sought to use this information to lobby for changes in the profession. Among the changes sought by the unions were an early retirement scheme for teachers, improved working conditions, and the development and implementation of a stress prevention scheme for schools.

This paper briefly describes the nature of stress in teaching in Ireland but mainly focuses on the development and dissemination process in relation to the last of these objectives, i.e. the development of a stress prevention manual and associated training courses.

The aim of this manual (described further below) is to provide teachers and schools with the means to assess stress in their workplace and to develop preventive solutions to the causes of stress.

Stress in the teaching profession in Ireland
At the beginning of the 1990's, little was known about the nature or extent of stress in teaching. There had been no in-depth surveys of the issue and the only scientific evidence available was from some small-scale studies (usually undertaken as part of a course of study). Anecdotal evidence abounded that teaching was a stressful profession, but the only routinely available information on the subject concerned claims, made on two permanent health insurance schemes, which indicated that many claims were stress-related, that these claims were increasing and that teachers who made these claims for reasons of stress rarely returned to work. In effect, they became permanently disabled from working in any occupation.

The three main teaching trade unions were at the forefront of dealing with stress issues, as they were aware, through members' complaints, that stress was an apparently growing problem. However, like everyone else, they had no clear idea of its extent, its consequences nor of what might constitute an adequate and effective response. Consequently, they commissioned a nationwide representative survey of stress in the teaching profession amongst more than 1500 teachers (approximately 5% of all Irish teachers). This survey was conducted by WRC (Wynne and Clarkin, 1991).

The 1991 Stress survey
The survey was very extensive in terms of the range of issues examined, and included the following general classes of variables:

- Personal demography
- School characteristics
- Generic and teaching sources of stress
- Non-work sources of stress
- Physical and psychological symptomatology
- Job satisfaction
- Coping styles
- Social support
- Health-related behaviours

Among the main findings from this survey were:
• **Sources of stress** - the main generic sources of stress concerned work overload, lack of consultation and communication and being undervalued by school management and parents. The main teaching specific sources of stress concerned pupil motivational and disciplinary issues, teaching difficult classes and having responsibility for pupils (especially during non-class time).

• **Outcomes of stress** - In general terms, teachers did not show very high levels of physical symptomatology, but there was considerable evidence of poor psychological well-being. This was measured using the GHQ-12 (Goldberg 1978) and since the study was undertaken, it is now possible to compare the ‘caseness’ rates with a nationally representative sample (see Figure 1 below).

![Figure 1. ‘Caseness’ rates amongst Irish teachers and the general population](image)

The top part of this figure refers to a nationally representative study of unemployment in which a range of other groups with various attachments to the workforce were compared with a sample of unemployed and job-seekers. The bottom part of the figure refers to the ‘caseness’ rates amongst the three teaching unions samples. There was and is clearly cause for concern here, as psychological disturbance is much above that in the general workforce and is exceeded only by the unemployed (in some cases) and the ill/disabled group.

These and other findings led the unions to push for the development of a methodology for preventing stress. Unfortunately, it proved difficult to obtain funding for this project until late in 1997, when grant aid was obtained from the EU SAFE programme and domestically from two insurance companies.

**Developing the stress prevention methodology**

A number of requirements were placed on the methodology to be developed which arose from the following considerations:

- Schools are effectively SMEs, to which it especially difficult to deliver OHS or stress prevention services
- The infrastructure required to deliver stress prevention or other OHS services to schools is weak
- Schools were (and are) undergoing many changes which influenced how they are managed, how planning takes place and the kinds of roles undertaken by teachers
- There is no strong tradition of teachers working together in project groups - levels of social support tend to be low
- Occupational stress assessment instruments tend to be suitable for use by experts only. In addition, the process of moving from stress risk assessment to prevention is not at all clear.

In light of these considerations, the following requirements were placed on the methodology to be developed:
• It must, as far as possible, be capable of use by non-experts
• Schools must be able to use it without recourse to external help
• The methodology should focus on sources of stress and their resolution, rather than on outcomes of stress and their treatment (school-based stress prevention processes operating without external professional support could not afford to become involved in outcomes of stress for reasons of awkwardness and confidentiality)
• The process of stress prevention should be consistent with other ongoing school processes, such as the generation of ‘safety statements’ and whole school plans

These requirements placed a number of constraints on the methodology - effectively that it must be simple and effective to use, non-threatening and must lead in a logical and efficient way to generating interventions, which prevent stress.

The development project, which was undertaken in twelve 2nd level schools in Ireland, the Netherlands and Spain aimed to draft, and pilot the methodology so that a usable and effective method resulted. This process took place during 1998 and 1999, and a final product became available in late 1999.

What does the methodology look like?
The methodology is organised into five modules:
• Getting started - this module is concerned with getting agreement from the commencement of the stress prevention process. It supports obtaining management and teacher support, setting appropriate expectations, developing a ‘contract’ and a range of other activities appropriate to setting up a well founded project.
• Identifying sources of stress - this module is concerned with identifying the major sources of stress within the school, assessing the associated risk, assessing how much control teachers have over these sources and reporting these to the body of teachers within the school. The approach taken here is to establish a process that engages the stress project team in dialogue, rather than to be ‘scientifically’ accurate. Support for moving forward is judged more important than purity.
• Analysing problems and solutions - This module supports perhaps what is the most important element of the process - moving from problems to solutions. The process is iterative, whereby problem solving proceeds on the basis of successive refinements of the teachers’ understanding of the sources of stress and their proposed solutions.
• Implementation – This module supports the implementation of stress prevention interventions by means of a set of planning and monitoring tools
• Evaluation and consolidation – This module supports the process of reviewing the effectiveness of the stress prevention interventions. In addition, it supports the establishment of a stress prevention cycle, through feeding back effectiveness information into the beginning of the process.

A set of tools has been developed to support the use of the methodology in each module and a training course has been developed on how to implement it.

Results from the pilot phase
As part of the development phase of the project, project teams within each of the 12 schools were engaged in a constant process of evaluation of the methodology. Among the significant findings from this evaluation were:
• Initial evaluations of methodology indicated that the methodology was too complex and too time consuming for easy usage
• There was a need to improve tool support for most of the modules
• There was a need to indicate how much time would be needed for implementing the methodology
• The training provided in using the manual was generally effective, but more emphasis needed to be placed on the ‘Getting Started’ module and the ‘Problem Solving’ module.

In addition to these methodology issues, an evaluation was also made of how effective the methodology had been in addressing issues in the stress in the teaching profession. These evaluations took place at a relatively early stage in the process of stress prevention, so a full range of outcomes was not seen. However, the following statements can be made with some certainty:
• The general feedback from the teachers involved in the project was positive
• The project gave them a sense of control over problems and a forum for speaking out publicly about sources of stress in the workplace. They saw the project as a way to look for support for their problems.

• Most teachers were of the opinion that the project allowed them to improve stress-related problems in the school.

• Often the project also helped the teachers to improve communication between management and teachers and decreased the number of complaints from staff.

• Finally, the teachers were happy to be involved in the pilot project and to have a chance to meet colleagues from other schools and to learn from each others experiences. This is a process, which does not usually take place.

Conclusion

The pilot project has shown that the stress prevention methodology for teachers is a useful instrument to prevent stress in the school situation. It also has a positive effect on the participation of teachers in decision-making processes in schools. The methodology enables teachers to play an active role in the organisational change process within the school.

As a result of this project, the Irish Ministry of Education has decided to support the widespread implementation of the methodology. Twenty Teachers will be trained in the methodology before the end of 2000. These will then act as trainers for project teams within schools, with the aim of training 600 teachers to use the methodology over the course of the next three years. This should ensure that about 75% of all second level schools in Ireland will have the capability to implement the methodology without the need for external support.

Discussions are taking place in both the Netherlands and Spain with a view to establishing similar roll-out programmes.