CHAPTER 12

Flexibility at Work in Relation to Employee Health

Töres Theorell

Karolinska Institute Stockholm, Sweden

12.1 PHYSIOLOGICAL FLEXIBILITY

From a medical perspective it is important to begin discussions about flexibility at work with the individual physiological mechanisms underlying reaction patterns. A recent development in physiology is the formulation of ‘chaos theory’ (Cotton, 1991; Goldberger, 1991), which can be regarded as the biological basis of flexible coping. It is, accordingly, of fundamental importance to the analysis of flexibility at work in relation to employee health. It postulates that the reactions in the healthy organism are unpredictable by means of conventional ‘linear’ models because there are a large number of possible responses to demanding situations. This is mirrored in the fact, for example, that the healthy human being has a large number of cycles in its variation in heart rate. The most well-known cycle is the one that is associated with breathing: when we take in air the heart rate accelerates and vice versa. As we grow old or develop certain kinds of heart disorders this respiratory ‘sinus arrhythmia’ disappears and so do several of the heart rate variability cycles. Most of our biological functions show variability that follows several cycles at the same time, and it seems to be true that ageing and sickness – for instance, heart disease – are associated with extinction of several of these cycles.

The unpredictable biological variability is also associated with the number of possible biological responses to demands in the environment. The larger the number of biological cycles, the larger the number of ‘ways out’ from difficult situations. Perhaps this biological principle is also applicable in psychosocial processes.
12.2 PSYCHOLOGICAL FLEXIBILITY

Biological chaos theory has its counterpart in psychological coping theory. One way of summarizing this is to say that individuals who report that they have many different ways of responding to demands – coping strategies – at their disposal will do better in demanding situations. Shalit (1978) developed his ‘coping wheel’ in order to predict which young men and women would be more able than others to stand the horrors of the Arab–Israeli wars during the 1960s and 1970s. His ideas were simple and straightforward. Those who report that they have many interests and areas of activity in life would do better than others. Furthermore, those who feel that they are in control of and have positive feelings about most of these activities – particularly those that are rated to have high priority – would be more likely to do better than others. According to these ideas, Shalit constructed a measurement technique that consists of a wheel with 12 segments. The subjects are asked to describe what activities they have in life. They only use one or two of their own words to describe the activity and they may use as many segments as they please. Afterwards they are asked to order the activities with regard to magnitude of importance (if they feel they are able to), and to rate them with regard to emotional feelings that they are associated with (from negative through neutral to positive) and with regard to the degree to which they feel they are in control. A recent study from our group has shown, for instance, that a programme for mental stimulation by means of pictures of pieces of art and discussion about the thoughts that these pictures evoke (exercises that take place for an hour once a week during four months) can increase the number of coping strategies and improve the pattern of coping in old people (Wikström et al., 1994). The effects of this programme were compared to the effects of ordinary conversations of the same frequency and amount. Improved emotional state and health were observed along with the improved coping patterns in the experimental group, but not in the control group.

In parallel with the observations on coping patterns in general, it might be speculated that flexible coping patterns could protect workers from poor health, and also that a work situation that enforces the development of such coping patterns stimulates the development of health in the workplace.

Another way of categorizing coping patterns is to group them into open and covert strategies. In a series of studies we have used a Swedish short version of a questionnaire measuring coping patterns (Harburg et al., 1973; Knox et al., 1985; Theorell et al., 1993). The person is asked what he or she would typically do if exposed to unfair treatment by the boss. Parallel questions are made about unfair treatment from a workmate. A number of
fixed response categories are used, and the degree to which the person uses different strategies is rated on a four-graded scale. Factor analyses have shown that the responses can be grouped into open (‘I would say immediately what I think’ etc.) and covert (‘I would not do anything’, ‘I would brood about it at home’ etc.) patterns. Covert coping is associated with sleep disturbance in both men and women (Theorell et al., 1993). This reaches statistical significance only for women in the study presented in Table 12.1. In a more recent study of 6000 employed women and men, however, a low decision latitude was statistically significantly related to a less open and a more covert coping pattern in both men and women although the relationship was stronger in women than in men (Theorell et al., 2000). In this later study we also found that a covert coping pattern – at least in men – was associated with high blood pressure. This may indicate that there is a psychophysiological cost (long-lasting energy mobilization) in covert coping.

The meaning and social context of flexibility may be markedly different for different groups. For instance, there are marked gender differences in the way in which psychosocial work organization correlates with individual coping patterns. Both intellectual discretion and authority over decisions increase significantly with age in men but not in women. This is consistent with findings in other countries. There are strong inverse correlations between social support, on the one hand, and psychological demands and the less covert coping, on the other, for women: the more support, the fewer demands and covert coping. In men, on the other hand, no relationship is found between covert coping and social support, whereas a weaker inverse relationship is found between social support and psychological demands. Social support at work stands out as a more significant buffer against stressful experiences for women than it does for men in this study.

But how do we stimulate flexible coping patterns in the work environment? In the following section I use Karasek’s demand-control model (Karasek, 1979) to clarify my points.

12.3 ORGANIZATIONAL FLEXIBILITY

The organization – for example, of a workplace – can be regarded in the same way as that of a human being. According to most of the management literature, flexibility is an important ingredient in prosperous organizations (Anderson & King, 1993). There may, unfortunately, be a conflict between organizational flexibility and the individual’s flexibility. This is one of the important themes in this review.
Table 12.1 Correlations between self-reported coping patterns and self-reported work environment in randomly selected working men and women in Stockholm (\( n = 80–90 \) for both groups)

<table>
<thead>
<tr>
<th></th>
<th>Open coping</th>
<th>Covert coping</th>
<th>Psychological demands</th>
<th>Intellectual discretion</th>
<th>Authority over decisions</th>
<th>Social support</th>
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<td>0.16</td>
<td>0.28*</td>
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<td>Authority over decisions</td>
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<td>0.07</td>
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<td>0.62*</td>
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<td>-0.22*</td>
<td>0.08</td>
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*Significant at least on the 5% level.
12.3.1 Flexibility from the Individual's Point of View in Relation to Health Risk

One of the most widely applied theoretical models for studying work organization in relation to individual health risks is the demand-control model. When Karasek introduced this model, it was an architect’s synthesis of the stress research/psychology and the sociology research traditions (Karasek, 1979). Generating the concept ‘lack of control’, or ‘lack of decision latitude’, as Karasek labelled it, goes back to the old sociologists’ question: ‘is the worker alienated from the work process?’. It was assumed that the possibility to utilize and develop skills (skill utilization), a concept developed in work psychology, was closely related to authority over decisions. In factor analysis of responses to questions about work content these two factors are mostly positively related, and, accordingly, they have been summated to constitute decision latitude (Karasek & Theorell, 1990). The other dimension, psychological demands, included qualitative as well as quantitative demands.

It should be emphasized that the demand-control model was never intended to explain all work environment related illness. Thus, there was no element of individual variation introduced into its original construction. On the contrary, the model dealt with the way in which work is organized, and the way in which this relates to illness. This simplicity has made the model useful in organizational work. A model that tries to explain ‘all of the variance’ would have to be more complicated and would be scientifically more, but educationally less, successful than the simple model that was introduced.

According to the model, there is interaction between high psychological demands and low decision latitude. If demands are regarded as the x-axis, and decision latitude as the y-axis in a two-dimensional system and the different combinations of high–low demands and high–low decisions are regarded, four combinations are recognized. The high demand/low decision latitude combination is regarded as the most relevant to illness development. Karasek uses a drastic analogy to describe this combination: if a person is crossing a street and he sees a truck approaching he may speculate that he will be able to cross the street without being hit by the truck – if he regulates his speed appropriately. However, if his foot gets stuck in the street his decision latitude diminishes dramatically and he is now in an extremely stressful situation. According to the theory, this kind of situation (not necessarily so dramatic), if prolonged and repeated for a long time, increases sympathoadrenal arousal and at the same time decreases anabolism, the body’s ability to restore and repair tissues. The combination of high psychological demands and high decision latitude is defined as the active situation. In this situation the worker has more possibility to cope with high psychological demands because he or
she can choose to plan working hours according to his or her own biological rhythm, and also has good possibilities for developing good coping strategies, facilitating feelings of mastery and control in unforeseen situations. The low demand/high decision latitude situation (relaxed) is theoretically associated with the smallest illness risks for the majority of subjects, whereas the low demand/low decision latitude situation, which is labelled ‘passive’, may be associated to some extent with the development of psychological atrophy: skills that the worker had when he was employed may be lost (Karasek & Theorell, 1990).

The most important component in Karasek’s demand-control model is perhaps decision latitude, since it is directly translatable into work redesign. Using our reasoning above regarding coping strategies, it can be stated that the two components of decision latitude both have major importance for the development of flexible coping strategies. A work site with a high degree of intellectual discretion will stimulate the development of such strategies in the employees and a high degree of authority over decisions will allow this to occur.

12.3.2 Introduction of Social Support to the Model

There have been two recent developments aimed at introducing social support to the demand-control model.

Iso-Strain

Firstly, Johnson has included social support in the theoretical model. A study of cardiovascular disease prevalence in a large random sample of Swedish men and women indicated that the joint action of high demands and lack of control (decision latitude) is of particular importance to blue-collar men, whereas the joint action of lack of control and lack of support is more important for women and white-collar men (Johnson & Hall, 1988). The multiplicative interaction between all the three aspects (iso-strain; demands × lack of control × lack of support) was tested in a nine-year prospective study of 7000 randomly selected Swedish working men. Interestingly, for the most favoured 20% of men (low demands, good support, good decision latitude) the progression of cardiovascular mortality with increasing age was slow, and equally so in the three social classes. In blue-collar workers, however, the age progression was much steeper in the worst iso-strain group than it was in the corresponding iso-strain group in white-collar workers (Johnson et al., 1989).
Working life career

Secondly, attempts are now being made to use the occupational classification systems in order to describe the ‘psychosocial work career’. Researchers have pointed out that an estimate of work conditions at only one point in time may provide a very imprecise estimation of the total exposure to adverse conditions (House et al., 1986). Therefore, in order to explore the effects of the total working career, a large group of randomly selected working men and women in Sweden were interviewed about occupations that they had had throughout their whole career. For each year the job description was translated to the Nordic classification of occupations. Occupational scores were subsequently used for a calculation of the ‘total lifetime exposure’. These scores had been derived from the average scores (demands, control and support) calculated separately for a number of subgroups within each occupation. Thus, they were calculated separately for men and women, for those below and above 45 years of age, and for those with less than 5 years of employment, between 5 and 20 years and finally above 20 years of employment. The ‘total job control exposure’ in relation to nine-year age-adjusted cardiovascular mortality in working Swedes was studied. It was observed for both men and women that the cardiovascular mortality differences between the lowest and highest quartiles were two-fold, even after adjustment for age, smoking habits and physical exercise. Furthermore, if the individual had had several large fluctuations in job control over the years, the risk of cardiovascular death during follow-up increased even more, up to almost three-fold compared to the high control group (Johnson et al., 1993). The index of psychological demands recorded in this study did not predict risk of cardiovascular death in the way that was expected. (The index consisted of two questions: ‘Is your work hectic?’ and ‘Is your work psychologically demanding?’) For men it had no predictive value at all, and for women it predicted significantly in the reversed direction: the higher the psychological demands during the career, the lower the risk. These latter findings may indicate either that the index is not capturing psychological demands or that demands are associated with risk in different ways in the short term (according to previous studies) compared to the long term. They also illustrate differences between men and women in the patterns of correlations between psychosocial factors and cardiovascular disease risk (Hall, 1990).

A recent study has shown that the level of control inferred from the job title – after taking age, gender and time of exposure to the occupation into account – has a different development in working men who have developed a first myocardial infarction during the 10 preceding years than in a control group of age matched men without this experience (Theorell et al., 1998). The 25% of the employed men who had had the least favourable development with
regard to decision latitude during the preceding 10 years had a significantly elevated risk of developing a myocardial infarction. This was particularly true in the 45–54-year-old men, among whom the excess risk was 80% after adjustment for accepted biomedical risk factors and social class. This observation may illustrate that the timing of a first myocardial infarction in a working man may be related to falls in control level at work. In the near future there will be increasing numbers of lay-offs and changes in jobs. Due to the increasing pressures in the labour markets, individuals will have to accept jobs with much lower levels of decision latitude than they have been accustomed to. Thus, it is to be expected that the number of myocardial infarctions will show a further increase.

12.4 PHYSIOLOGICAL COUNTERPARTS OF THE DEMAND-CONTROL-SUPPORT MODEL

It has been hypothesized that working in an active situation stimulates the anabolic restoring and protective processes in the body (Karasek & Theorell, 1990), whereas working under job strain inhibits anabolism. In both active jobs and job strain, psychological demands are high. This means that mobilization of energy has a high priority. Long-lasting energy mobilization may lead to catabolism, the breakdown of protein for the provision of energy ‘at any cost’. Due to the high level of anabolism taking place in the active jobs, the body will be able to stand these periods of energy mobilization well. In flexibility terms, this means that the active jobs enhance the body’s capacity to stand periods of energy mobilization. This could be one way of describing flexibility in physiological terms. However, in the job strain situation, anabolism is inhibited and the body’s capacity to stand periods of energy mobilization is therefore limited.

Anabolic processes correspond predominantly to certain hormones such as testosterone, growth hormone and insulin, which stimulate restoration and repair of worn-out tissue material in the body. The activity of this type of hormone typically peaks during deep sleep, when restoration and reparation activities are at maximum levels, whereas typical endocrine counterparts of energy mobilization are cate-cholamines and thyroid hormones.

Few studies have been published that have explored empirically the relationship between psychosocial job factors, on the one hand, and the balance between energy mobilization and anabolism, on the other. In a study performed by our group, working men and women were followed longitudinally during one year at three-month intervals, and spontaneous variations in job strain were recorded by means of questionnaires. It was shown that spontaneously occurring periods of job strain (according to the person’s own
standards) were associated with elevated blood pressure levels during working hours, increased sleep disturbance and lower testosterone concentration levels in plasma, findings compatible with increased energy mobilization and decreased anabolism (Theorell et al., 1988). These results illustrate that there may be physiological mechanisms linking an increased rigidity (from the employee’s point of view) under demanding conditions to changes in health.

12.5 COMBINING THE INDIVIDUAL’S NEED FOR FLEXIBILITY WITH THAT OF THE WORK ORGANIZATION

The above review indicates that hard health outcome criteria, as well as mortality, covary with factors that are relevant to flexibility for the individual, and can be summarized under the heading of decision latitude with the two components:

1 Opportunity to develop and use one’s own skills.
2 Opportunity to issue control over one’s own situation.

Some of our empirical findings give a hint that long-term exposure to low decision latitude jobs creates even more pronounced health risks than does short exposure and, furthermore, that a sudden deterioration in decision latitude may be followed by increased health risks within a couple of years.

Although slightly less well established, good social support at work, which may be associated with flexible solutions from the individual’s point of view (good social interactions may increase the number of options in difficult working situations), may protect the individual from the adverse effects of a rigid work environment. In at least two of our studies of personnel in adverse job conditions – prison personnel and airport freight handlers (Härenstam et al., 1988, Theorell et al., 1990) – it became evident that personnel working under bad conditions can stand low decision latitude more easily if they derive support from colleagues.

The central question in this contribution is how flexibility in the biological and psychological sense and from the perspective of the individual – in the long term, in particular – can be obtained in work organization. It is likely that organizational changes favouring the development of increased intellectual discretion and authority over decisions in individuals may stimulate flexibility in coping patterns.

Flexibility for the individual may not always be the same as flexibility for the organization. It is important to make this distinction. Organizational
flexibility may mean, for instance, that employees should be able to change workplace and work hours at short notice. This may, of course, imply a lack of decision latitude for employees and their families. Such a development has been studied very recently by our research group in a large, prosperous international corporation with rapid technological development. In this company, expansion has made it impossible for the company to build sufficient office space for all employees. This has stimulated the development of alternative strategies for constructing offices. These alternative strategies are intertwined with changes in work organization. Employees do not work in jobs, but instead in projects, which last for only three months on average. As a consequence of their moves between projects, employees also make many geographical moves. Accordingly, it is meaningless for them to have offices of their own. In this situation, employees have a very stimulating work situation with good opportunities to develop and use their skills. They also feel that they have good opportunities to exercise control in their work situation. However, a basic sense of belonging and social support may be lost, and this may be a threat to the individual’s possibility of exercising flexibility. Furthermore, we may be facing an era that goes too far in emphasizing the benefits of active work (see above). Our evidence does, indeed, indicate that active work is associated with good health. However, if demands are pushed excessively, with extreme working hours, for example, social support from the family may be lost; if this is combined with loss of continuous support from workmates, we may face serious problems.

In a pilot study of the consequences of the first version of these sociotechnical changes, two different departments were studied. The same change was perceived very differently by the staff in the two departments. In one case, the work contents suited the proposed organization; the staff had asked for the change and they felt mentally prepared for it. In the other case the management had decided that the change should take place, the staff had no mental preparation for it and the change did not suit the work contents. Obviously, the change was perceived as good in the first department and as bad in the second. This enforces the importance of good preparation and democratic processes preceding any change. However, the long-term consequences of these new ways of organizing work are largely unknown.

A large study of work sites in Sweden based upon line managers and personnel managers has shown that a number of changes have taken place in the management of Swedish working life during recent years (Edling & Sandberg, 1994). The analysis of the effects of decentralization in this study showed that the correlation between decentralization and skill utilization is highly complex. In Sweden, in general, the perceived skill utilization among employees has, contrary to expectations, become lower in work sites in which a flat hierarchy had been introduced than in those with a pyramidal
hierarchy. This may reflect differences in management changes in different sectors of society. It may also illustrate that management interventions aiming at increased decision latitude for the employees cannot be achieved by one and the same solution in different sectors. This important result may also be due to too short a time perspective in the follow-up. It may take many years before the introduction of a flat hierarchy becomes functional, and in the Swedish case most of the work organizational changes have lasted for shorter periods. Furthermore, if the organizational changes are not paralleled by corresponding changes in the financial framework, the organizational changes may not function in an optimal way and complications may arise. Perhaps the disappointing results based upon randomly selected working Swedes may be explained on such grounds.

12.5.1 Work Organization Changes that Induce Flexibility

What characterizes work organization changes that induce flexibility, both for the company and for the individuals, and how does this relate to health? There are a few examples of work organization changes that have been evaluated in relation to changes in health or physiology of the employees. Some of these are described here, with the goal of exploring what characterizes changes that are successful for both the employees and the company.

One of the first controlled evaluations using a pre- and post-test design with two randomly selected groups of work sites was Jackson’s (1983) study. The work change offered in the experimental group was aimed at improving both decision latitude and social support. No systematic changes were instituted in the control group. The groups studied were outclinic departments. Regular staff meetings every second week were instituted, with the specific aim of examining work organization and trying to improve it. These meetings may have affected both the employees’ authority over decisions and the social climate in the ward. The other component of the evaluation was a teaching programme for solving interpersonal conflicts – a social support orientated measure. The results showed that the experimental outclinic wards had diminished sick-leave rates as well as decreased personnel turnover rates after the institution of these changes. There were also indications of improved quality of care. No similar changes took place in the comparison wards.

Another controlled evaluation was performed in a service institution for the elderly in Stockholm, by Arnetz et al. (1982). The basic idea underlying the intervention programme focused on one aspect of the quality of care given: it was felt that the elderly tenants were excessively passive and isolated from one another. The service institution was relatively new – only two years old – and the tenants, who had not known one another in advance, had been
recruited from a large area, frequently with the implicit understanding that they would receive all kinds of service and ‘would have to do nothing’ themselves. The first component in the method for changing this pattern was exploration of hobbies and interests among the tenants, with subsequent formation of activity groups. One activity group, for example, studied the history of the region; a second one grew plants during the summer and studied this topic during the winter; a third group jointly constructed a work of art; and a fourth went to theatre performances together. The other component was teaching the staff about various aspects of the importance of social activity among the elderly. The members of staff were also activated in the data collection for the evaluation of this programme. A longitudinal study was performed, with measurements of social activity, psychological states, and endocrinological and metabolic conditions in the tenants before, during and after the programme. Parallel measurements were performed in a comparable ward, which served as a control group.

The results indicated that the tenants in the experimental ward improved with regard to endocrinological and metabolic conditions (improved carbohydrate metabolism and anabolic/catabolic balance), social activity (more contacts with other tenants and more social activities for the elderly outside the home) and psychological state (less feelings of restlessness and more evidence of activity rather than passiveness, according to observations) (Arnetz, 1983; Karasek & Theorell, 1990). During the first year of follow-up an unfavourable trend with regard to sick-leave rates was broken in the staff in the experimental ward but not in the control ward. Personnel turnover was reported to decrease in the experimental ward but, again, not in the control ward. The experience in this case seemed to indicate that a more variable work content with increased mental stimulation and increased attention to the social activities of the tenants – which required more imagination and creativity on the part of the personnel – is associated with improved health among the employees.

A number of other examples have been described. Karasek has summarized several recent efforts and analysed the characteristics of successful and unsuccessful programmes (Karasek, 1992).

12.6 PUBLIC HEALTH PERSPECTIVES

An observation of a more general nature was made by Karasek (1990) in a group of Swedish employees who had participated in a national longitudinal survey of living conditions in Sweden, with questionnaire measurements in 1968 and 1974. This particular study was focused on employed men and women who had gone through major changes in their job situation. As a
group, these individuals had developed more health problems at the time of the second observation than at the time of the first one. However, when the group was divided according to reported changes in work organization leading to changes in decision latitude, it was shown that those employees who had increased decision latitude did not report increased health problems. Deteriorating health was reported mainly among those employees who had recorded decreased decision latitude at work to have been a consequence of the changes they had gone through. This observation indicates that spontaneously occurring, decreased decision latitude in working life may result in marked deterioration in public health. The Swedish nationwide longitudinal study of health and working life (Szulkin & Tåhlén, 1994) has indicated that job strain became an increasingly frequent problem from the 1970s to the end of the 1980s in working women – but not in men – in Sweden. During the same period sick-leave rates increased markedly in Swedish women but not in men. Multivariate analyses indicated that these findings could not be explained by increasing total work hours in women, and pointed at the interpretation that they were due to changes in work contents. The most pronounced changes were found in the health care and service sectors. Sweden underwent dramatic changes during the study period, with increasing emphasis on effectiveness and productivity in these sectors. Cardiovascular symptoms increased particularly in these groups of female employees.

Marked and frequent fluctuations in financial climates are an increasing worldwide problem for enterprises. As pointed out by Brenner (1983), recessions create problems, not only because enterprises may have to decrease the number of employees, but also because a period of marked financial activity may follow shortly after the recession, which means that the remaining employees in the enterprise will have to work very hard to meet the demands from the customers. These unpredictable short-cycle swings may be one of the more important mechanisms behind the relationship between rising unemployment in a country and subsequent rise in cardiovascular and other mortality. This relationship has been discussed extensively (see Janlert, 1991), and most authors claim that it exists, although the time lag between recession and mortality has been a point of debate. The important argument for the flexibility discussion in this chapter is that rising unemployment is a multifaceted problem, which affects not only those who become unemployed but also those who remain employed. It is one of the most important tasks for governments and management to find flexible solutions to this problem.

Unfortunately, a common belief in management is that during financial crisis there is a need to take more control – and hence to decrease the decision latitude of employees – and at the same time increase psychological demands in order to increase the company’s ability to compete. The arguments that
have been formulated in this chapter clearly speak against this common wisdom – in the long run, the ultimate result will be increasing health problems, and productivity will not increase.

The demand-control-support model has proved educationally useful. In an interactive process involving managers, unions and employees, it is a tool that can be used to initiate a dialogue. In this chapter I have given some examples indicating that it is the balance between the three components that is important. For instance, if demands are increased excessively, with extreme working hours, this may have secondary effects on the individual’s total social support system. If the long working hours are combined with work outside the office, social support from workmates may be lost. This may jeopardize flexibility and may also be a threat to health. An excessive number of projects and activities will also decrease the individual’s ability to experience control in his or her own situation, since the likelihood that complications will arise increases with the number of projects. When complications arise in one of the projects, this takes time and energy and the individual will have gross difficulties in managing all of the other activities. Thus, lack of flexibility is an inevitable consequence of an excessive number of activities (as well as of any form of task overload).

If biological chaos theory is correct, the human organism needs to play with as many possibilities as possible. Although highly speculative, if we limit the possibilities to respond by restricting the number of options, the number of spontaneous variations may decrease and health may deteriorate.

Finally, analyses of the national surveys in Sweden indicate that simplistic solutions aiming at increased authority over decisions for the employees—such as a flattened hierarchy – may not always be a good way of achieving increased flexibility.

Since the chapter was written this group of researchers have published several reports that seem to confirm the points raised in the text:

For an updated summary of the physiological aspects of “positive coping”, see Theorell (2009).

Several prospective studies of the demand control model in relation to risk of developing coronary heart disease have been published and the results are summarised in Eller et al. (2009). The results of this systematic review are mixed. The model is predictive for men especially before age 55 but for women the findings are less consistent. During the recent past ten year period, the factor psychological job demands has gained in predictive importance.

During later years, the demand control support model has been increasingly utilised in prospective predictions of mental health; see, for instance, Magnusson Hanson et al. (2008). The findings related to covert coping have been extended to short- and long-term sick leave. According to
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Theorell et al. (2005) a high degree of covert coping in men is related to increased risk of long-term sick leave prospectively.

The importance of leadership styles to employee health has been explored in more recent research. Results from our research show that dictatorial and laissez faire leadership styles (as reported by the employees) are related to sick leave patterns in both men and women (Nyberg et al. 2008). In addition, a prospective study of the risk of developing myocardial infarction in employed men showed that those who reported that they had psychosocially competent managers had a lower risk than others and that this risk decreased with duration of employment in such a work site (Nyberg et al. 2009).

REFERENCES


