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## ● PSYCHOSOCIAL AND ORGANIZATIONAL FACTORS

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In 1966, long before *job stress* and *psychosocial factors* became household expressions, a special report entitled "Protecting the Health of Eighty Million Workers—A National Goal for Occupational Health" was issued to the Surgeon General of the United States (US Department of Health and Human Services 1966). The report was prepared under the auspices of the National Advisory Environmental Health Committee to provide direction to Federal programmes in occupational health. Among its many observations, the report noted that psychological stress was increasingly apparent in the workplace, presenting "... new and subtle threats to mental health," and possible risk of somatic disorders such as cardiovascular disease. Technological change and the increasing psychological demands of the workplace were listed as contributing factors. The report concluded with a list of two dozen "urgent problems" requiring priority attention, including occupational mental health and contributing workplace factors.

Thirty years later, this report has proven remarkably prophetic. Job stress has become a leading source of worker disability in North America and Europe. In 1990, 13% of all worker disability cases handled by Northwestern National Life, a major US underwriter of worker compensation claims, were due to disorders with a suspected link to job stress (Northwestern National Life 1991). A 1985 study by the National Council on Compensation Insurance found that one type of claim, involving psychological disability due to "gradual mental stress" at work, had grown to 11% of all occupational disease claims (National Council on Compensation Insurance 1985).<sup>1</sup>

These developments are understandable considering the demands of modern work. A 1991 survey of European Union members found that "The proportion of workers who complain from organizational constraints, which are in particular conducive to stress, is higher than the proportion of workers complaining from physical constraints" (European Foundation for the Improvement of Living and Working Conditions 1992). Similarly, a more recent study of the Dutch working population found that one-half of the sample reported a high work pace, three-fourths of the sample reported poor possibilities of promotion, and one-third reported a poor fit between their education and their jobs (Houtman and Kompier 1995). On the American side, data on the prevalence of job stress risk factors in the workplace are less available. However, in a recent survey of several thousand US workers, over 40% of the workers reported excessive workloads and said they were "used up" and "emotionally drained" at the end of the day (Galinsky, Bond and Friedman 1993).

The impact of this problem in terms of lost productivity, disease and reduced quality of life is undoubtedly formidable, although difficult to estimate reliably. However, recent analyses of data from over 28,000 workers by the Saint Paul Fire and Marine Insurance company are of interest and relevance. This study found that time pressure and other emotional and personal problems at work were more strongly associated with reported health problems than any other personal life stressor; more so than even financial or family problems, or death of a loved one (St. Paul Fire and Marine Insurance Company 1992).

<sup>1</sup> In the United States, occupational disease claims are distinct from injury claims, which tend to greatly outnumber disease claims.

Looking to the future, rapid changes in the fabric of work and the workforce pose unknown, and possibly increased, risks of job stress. For example, in many countries the workforce is rapidly ageing at a time when job security is decreasing. In the United States, corporate downsizing continues almost unabated into the last half of the decade at a rate of over 30,000 jobs lost per month (Roy 1995). In the above-cited study by Galinsky, Bond and Friedman (1993) nearly one-fifth of the workers thought it likely they would lose their jobs in the forthcoming year. At the same time the number of contingent workers, who are generally without health benefits and other safety nets, continues to grow and now comprises about 5% of the workforce (USBLS 1995).

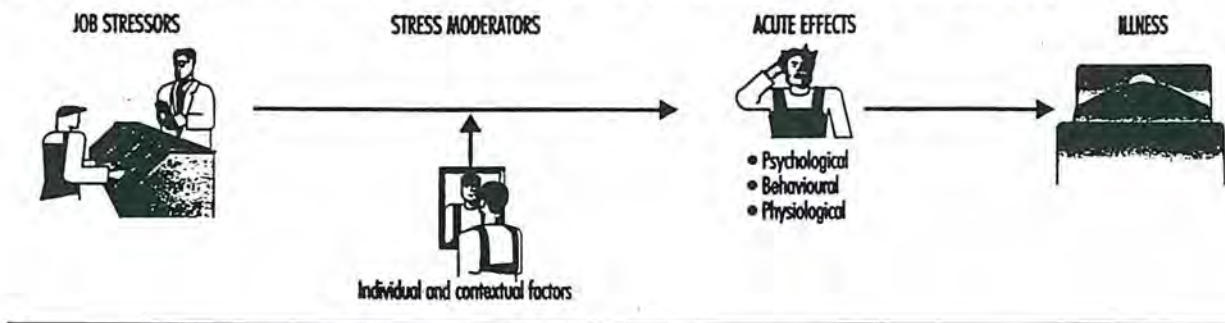
The aim of this chapter is to provide an overview of current knowledge on conditions which lead to stress at work and associated health and safety problems. These conditions, which are commonly referred to as *psychosocial factors*, include aspects of the job and work environment such as organizational climate or culture, work roles, interpersonal relationships at work, and the design and content of tasks (e.g., variety, meaning, scope, repetitiveness, etc.). The concept of psychosocial factors extends also to the extra-organizational environment (e.g., domestic demands) and aspects of the individual (e.g., personality and attitudes) which may influence the development of stress at work. Frequently, the expressions *work organization* or *organizational factors* are used interchangeably with *psychosocial factors* in reference to working conditions which may lead to stress.

This section of the *Encyclopaedia* begins with descriptions of several models of job stress which are of current scientific interest, including the job demands-job control model, the person-environment (P-E) fit model, and other theoretical approaches to stress at work. Like all contemporary notions of job stress, these models have a common theme: job stress is conceptualized in terms of the relationship between the job and the person. According to this view, job stress and the potential for ill health develop when job demands are at variance with the needs, expectations or capacities of the worker. This core feature is implicit in figure 34.1, which shows the basic elements of a stress model favoured by researchers at the National Institute for Occupational Safety and Health (NIOSH). In this model, work-related psychosocial factors (termed stressors) result in psychological, behavioural and physical reactions which may ultimately influence health. However, as illustrated in figure 34.1, individual and contextual factors (termed stress moderators) intervene to influence the effects of job stressors on health and well-being. (See Hurrell and Murphy 1992 for a more elaborate description of the NIOSH stress model.)

But putting aside this conceptual similarity, there are also non-trivial theoretical differences among these models. For example, unlike the NIOSH and P-E fit models of job stress, which acknowledge a host of potential psychosocial risk factors in the workplace, the job demands-job control model focuses most intensely on a more limited range of psychosocial dimensions pertaining to psychological workload and opportunity for workers to exercise control (termed decision latitude) over aspects of their jobs. Further, both the demand-control and the NIOSH models can be distinguished from the P-E fit models in terms of the focus placed on the individual. In the P-E fit model, emphasis is placed on individuals' perceptions of the balance between features of the job and individual attributes. This focus on perceptions provides a bridge between P-E fit theory and another variant of stress theory attributed to Lazarus (1966), in which individual differences in appraisal of psychosocial stressors and in coping strategies become critically important in determining stress outcomes. In contrast, while not denying the importance of individual differences, the NIOSH stress model gives primacy to environmental factors in determining stress outcomes as suggested



Figure 34.1 • The Job Stress Model of the National Institute for Occupational Safety and Health (NIOSH).



by the geometry of the model illustrated in figure 34.1. In essence, the model suggests that most stressors will be threatening to most of the people most of the time, regardless of circumstances. A similar emphasis can be seen in other models of stress and job stress (e.g., Cooper and Marshall 1976; Kagan and Levi 1971; Matteson and Ivancevich 1987).

These differences have important implications for both guiding job stress research and intervention strategies at the workplace. The NIOSH model, for example, argues for primary prevention of job stress via attention first to psychosocial stressors in the workplace and, in this regard, is consistent with a public health model of prevention. Although a public health approach recognizes the importance of host factors or resistance in the aetiology of disease, the first line of defence in this approach is to eradicate or reduce exposure to environmental pathogens.

The NIOSH stress model illustrated in figure 34.1 provides an organizing framework for the remainder of this section. Following the discussions of job stress models are short articles containing summaries of current knowledge on workplace psychosocial stressors and on stress moderators. These subsections address

conditions which have received wide attention in the literature as stressors and stress moderators, as well as topics of emerging interest such as organizational climate and career stage. Prepared by leading authorities in the field, each summary provides a definition and brief overview of relevant literature on the topic. Further, to maximize the utility of these summaries, each contributor has been asked to include information on measurement or assessment methods and on prevention practices.

The final subsection of the chapter reviews current knowledge on a wide range of potential health risks of job stress and underlying mechanisms for these effects. Discussion ranges from traditional concerns, such as psychological and cardiovascular disorders, to emerging topics such as depressed immune function and musculoskeletal disease.

In summary, recent years have witnessed unprecedented changes in the design and demands of work, and the emergence of job stress as a major concern in occupational health. This section of the *Encyclopaedia* tries to promote understanding of psychosocial risks posed by the evolving work environment, and thus better protect the well-being of workers.

## THEORIES OF JOB STRESS

### ● PSYCHOSOCIAL FACTORS, STRESS AND HEALTH

Lennart Levi

In the language of engineering, stress is "a force which deforms bodies". In biology and medicine, the term usually refers to a process in the body, to the body's general plan for adapting to all the influences, changes, demands and strains to which it is exposed. This plan swings into action, for example, when a person is assaulted on the street, but also when someone is exposed to toxic substances or to extreme heat or cold. It is not just physical exposures which activate this plan however; mental and social ones do so as well. For instance, if we are insulted by our supervisor, reminded of an unpleasant experience, expected to achieve something of which we do not believe we are capable, or if, with or without cause, we worry about our job or marriage.

There is something common to all these cases in the way the body attempts to adapt. This common denominator—a kind of "revving up" or "stepping on the gas"—is stress. Stress is, then, a stereotype in the body's responses to influences, demands or strains. Some level of stress is always to be found in the body, just as, to draw a rough parallel, a country maintains a certain state of

military preparedness, even in peacetime. Occasionally this preparedness is intensified, sometimes with good cause and at other times without.

In this way the stress level affects the rate at which processes of wear and tear on the body take place. The more "gas" given, the higher the rate at which the body's engine is driven, and hence the more quickly the "fuel" is used up and the "engine" wears out. Another metaphor also applies: if you burn a candle with a high flame, at both ends, it will give off brighter light but will also burn down more quickly. A certain amount of fuel is necessary otherwise the engine will stand still, the candle will go out; that is, the organism would be dead. Thus, the problem is not that the body has a stress response, but that the degree of stress—the rate of wear and tear—to which it is subject may be too great. This stress response varies from one minute to another even in one individual, the variation depending in part on the nature and state of the body and in part on the external influences and demands—the stressors—to which the body is exposed. (A stressor is thus something that produces stress.)

Sometimes it is difficult to determine whether stress in a particular situation is good or bad. Take, for instance, the exhausted athlete on the winner's stand, or the newly appointed but stress-racked executive. Both have achieved their goals. In terms of pure accomplishment, one would have to say that their



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