



## Psychosocial working conditions, school sense of coherence and subjective health complaints. A multilevel analysis of ninth grade pupils in the Stockholm area

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### A B S T R A C T

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This study explores the psychosocial working conditions of 7930 Swedish 9th grade students, distributed over 475 classes and 130 schools, in relation to their subjective health using multilevel modeling. At the individual level, students with “strained” working conditions in school (i.e. those experiencing a high level of demands in combination with a low level of control) demonstrated significantly worse health compared to students in “low-strain” situations. “Strained” conditions in combination with a weak school-related sense of coherence were especially unfavourable for health. These findings remained significant when support from teachers, school marks, norm-breaking behaviours, family-relations and certain class- and school-contextual conditions were adjusted for. Thus, while demands are an essential part of school work, this study suggests that high levels of control and a strong school-related sense of coherence can protect against the more detrimental effects on health that high demands at school may cause.

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### Introduction

The school setting involves both risks and resources for pupil health. Psychological and somatic health problems in young people are believed to be partly stress-related (Alfvén, Östberg, & Hjern, 2008; Bovier, Chamot, & Perneger, 2004; Natvig, Albrektsen, Anderssen, & Qvarnström, 1999), and one reason for their apparent increase in recent decades may be a general intensification of stress in pupils' everyday lives (Danielson, 2006; OGR, 2006; Torsheim & Wold, 2001a, 2001b). Although the causes of stress and stress-related illness may extend over several areas of life, adolescents in Sweden appear to regard school as a major source of stress (Children's Ombudsman, 2004; WHO, 2008). The mutual impact on pupils' health of school-related work stress and stress-relieving resources available in the school environment is an important area of research when trying to understand how the school can act as a health-promoting institution. Moreover, the contextual variation in pupils' health across schools and school classes according to the psychosocial work environment they provide can indicate possible scope for improvement.

The importance of conditions at work for the adult population has been generally acknowledged, with much attention paid to the links between the psychosocial work environment, stress and health. The demand/control model (Karasek, 1979),

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stating that the combination of high demands and low control at work considerably increases the risk of stress-related ill health, has gained widespread acceptance. Although it has become more common during the past decade to view school as a work environment with a potential influence on health, much less research has been carried out on this topic. By using the demand/control model as the frame of reference and self-reported data based on all 9th grade students in Stockholm city and eight of its surrounding municipalities, this study investigates the importance of the psychosocial working conditions in school for pupils' stress-related ill health as measured by subjective health complaints. It has been suggested that demands and control are, in fact, embedded in the organizational context of a workplace. Therefore, by applying multilevel analysis, valuable knowledge can be gained about the respective influence of organizational and individual factors on health (Härenstam, 2008; Marklund, Bolin, & von Essen, 2008). Since no "objective" data at the class-level is available, aggregated individual-level information on self-reported demands and control is used in order to explore the role of organizational conditions. Thus, pupils' average perception of their work situation is used as an indicator of work place characteristics.

As noted by Karasek and Theorell (1990), individual characteristics may affect a person's perception of, and ways of handling, his or her burden of demands and scope of control. This is particularly relevant when studying such a heterogeneous group as 9th grade students, who, in many respects, are exposed to a relatively homogeneous work environment. Antonovsky (1987) posed the question of why some individuals remain healthy despite frequent exposure to immense stressors. This led him to elaborate a 'salutogenic model', its core construct being sense of coherence (SOC), which was designed to explain successful coping with stressors. Numerous studies of different life-stress contexts have demonstrated that a strong SOC is a health-promoting factor, and that people with a strong SOC have better health than those with a weak SOC (Eriksson & Lindström, 2006). Furthermore, SOC as a group characteristic is believed to be relevant for health partly because it influences the SOC development of individual group members, but also because it can serve as an effective recourse when dealing with collective stressors (Antonovsky, 1987). In this study, a proxy of school-related sense of coherence (SSOC) will be included in the analyses in order to explore its potential buffering impact on the relationship between work-related stress and subjective health complaints. At the contextual level, the relevance of aggregated class-measures of SSOC for students' health will be explored while also taking a number of school-level characteristics into consideration in the analyses.

#### *The work environment and health*

Much empirical evidence suggests that stressful working conditions have detrimental effects on adult health. While demands are a natural part of working life, a disproportionate level of stress-inducing requirements and obligations may, in the long run, endanger an individual's well-being. This is especially true for those who lack the means to deal with such stressful situations. In empirical studies, time pressure, work pace, workload and conflicting demands are the usual examples of demanding working conditions. An individual's degree of control (or decision authority) over his/her working conditions, on the other hand, depends on the degree of task variety and the autonomy that the job offers (Karasek & Theorell, 1990).

By combining these two aspects of the work situations, four different types of job may be discerned, each of which reflects a specific kind of psychosocial work environment. The 'low-strain job' has low demands and high control. Although these jobs may offer few challenges, the ability to respond to every demand optimally makes such employees less vulnerable to stress-related illness. The 'active job' is highly demanding, but also offers a high degree of control. Provided that the level of demands is not overwhelming, these working conditions tend to cause a positive spiral of job-induced learning through which the worker develops new coping strategies that may prevent stress and promote self-esteem. The 'passive job', in which both demands and control are low, gives rise to the reverse state of affairs. Despite the fact that these working conditions are demotivating, the low level of demand still seem to put the passive job holders at about the same risk as the active job holders with regard to stress-induced illness. Finally, 'the high-strain job', defined by high demands and low control, is the unhealthiest of the four. A heavy workload in combination with insufficient freedom of action to cope with the situation generates unused residual strain which, in the long run, may cause feelings of hopelessness and stress-related illness.

#### *Sense of coherence and health*

SOC expresses a generalized set of beliefs about oneself and about one's world, and how these beliefs influence one's perception and appraisal of a stressful situation and one's resource-mobilization in that given situation (Antonovsky, 1987, 1991). Persons with a strong SOC are usually driven by a desire to solve their problem, and they therefore tend to choose the coping strategy that is most suitable for the particular stressors they are currently confronted with. As a consequence, tension is more likely to be perceived as *comprehensible* (feeling confident that the stimuli deriving from ones internal and external environments are structured, predictable and explicable), *manageable* (feeling confident that one possesses the resources to meet the demands posed by these stimuli), and *meaningful* (feeling confident that these demands are challenges worthy of investment and commitment), something which reduces the potential psychological distress and its negative effects on health. These three elements of SOC are interrelated, and all of them are needed for successful coping (Antonovsky, 1987).

It is generally assumed that children and adolescents growing up in socioeconomically stable environments with clearly defined norms and values, as well as those brought up in emotionally stable family settings, are more likely to develop a strong SOC (Antonovsky, 1987; Antonovsky & Sagy, 1986). Thus, the individual emerges from childhood with a tentative SOC which continues to develop during adolescence, and is considered to be fully stabilized by the age of around 30.

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