

Ergonomic principles and tools for best interdisciplinary psycho-physical stress prevention

Dott. Luigi Dal Cason^{a,*},

^a*Ecotarget Srl, Via Molino della Splua, IT-10028, Trofarello, Turin, Italy*

Abstract. The psycho-physical stress is a risk to all intents and purposes, finally acknowledged, it requires increasing attention. Measures for its protection are reflected in the appropriate application of organizational policies on a human scale, or in respect of the "macro-ergonomics". This work consists on several inter-disciplinary tools available to the proper prevention, outbreaks of work-related stress. During work, adequate rests are important to prevent work related physical and mental fatigue. The strategies for maintaining a healthy balance between work rate and work breaks, may differ depending on the individual, subjective habits and peculiarities related to the work environment. Resting does not necessarily mean "going to break". The break-time is important as the work-time. While the latter is regulated, the first is not always clearly defined, though necessary. Knowing the employment contract is the first step towards the implementation of their rights relating to periods of suspension from the activity of work is also essential for high performance working. Breathing exercises, massage therapy, biofeedback, role-playing are some of the tools used during work breaks to prevent mental and physical fatigue. At the end music has a rhythm by alternating strong and weak accents. If the musical notes represent the "vertical" trend of music (melody), figures and pauses, inserted into the rhythmic structure of the measure, regulate the duration of sounds over time and determine the "horizontal" trend of a song. Transferring this concept on work, is meant to understand, using a metaphor, the importance of respect of changes in both vertical and horizontal trends inside a cycle.

Keywords: Psycho-Physical Stress, Risks, Work Environment, Breaks, Time-Planning, Rhythm, Music.

1. Introduction

The WHO definition of health clearly identifies the underlying meaning that the work done has set as a goal of applied research, in particular identifying work-related stress as a problem cross all kind of workers.

In the European case study psychosocial risks have become, directly or through related events, the first cause of illness in the workplaces. Evidently, the social and economic factors are daily compared with someone's experience, but if the problems at work should not be considered working conditions for the administration and business organization, some intervention on workers and working groups is essential but not so simple.

2. Merits of the case

The passage of TIME and METHODS that distinguish products and /or services (remembering TAYLOR), affect the pace of life, at work as in leisure time, often allowing limited BREAKS to occupations of greater degree, or alternative occupations.

* Corresponding author. E-mail: dalcason@ecotarget.it

The "lack of time" is considered to be closely related to the onset and increases work-related stress. To this established figure, especially in less industrialized countries, often corresponds a lack of awareness of the problem and therefore a poorer understanding of individual and social risks. Searching specific risk factors inside the organization should be possible in any work environment, helping then a properly monitoring. All this in order to implement the best possible preventive measures, for any work and workers, with priority to organization and collective action. Social dialogue, every level workers cooperation and participation, and searching for context based solutions, are important aspects of stress prevention measures.

It is important to recognize the "stressors" first, and not only reduce the observed effects, and maybe face with apparently satisfactory results. Whatever choice is made, it should accord the "control" of the organization that can and should be engaged by the company, with actual and conscious workers participation. The benefits of a good synergy will always be bilateral and considerable. The ergonomics, especially the macroergonomics, has its assets in any particular right to be the lever with which ignite and operate these mechanisms.

Accidents with / without related casualties, may be related to subjective causes, objective causes and MANAGEMENT; stand out among all these with great frequency: fatigue, habit of repetitive tasks, high rates and lack of workers real involvement. The occupational physician could interact effectively with operational tasks, staff and INFORMATION; however he is not yet over a well-established mean between the employer and all workers.

Moreover, falling in the practical, the same ergonomics, at least in Italy, has not even well defined in its glossary positive concepts about the time management, rhythm and BREAKS. Therefore it's inevitable that the onset of mental overload MENTAL FATIGUE joins the strictly physical fatigue, making the worker NOT ABLE to effectively respond to external urges (stress or even his own physical signals). Conversely, as soon as job satisfaction and a satisfying life quality will bring individuals as groups they belong, the result will be physical and mental well-being (HEALTH). All this for all workers categories, with same rights even if with different organizational and applicative consequences.

Entering the psychophysical mechanisms of fatigue, now known and measurable at the level of the neuroendocrine chain and immune system, has thus managed to highlight the physical damages caused by stress correlation. New techniques for NMR (Nuclear Magnetic Resonance), documentation in progress at the University of Turin (Italy), seem to show the same responses of cell damage in subjects exposed to equivalent stressors risk.

Therefore it is essential ,in everyday life, to provide PLANNING, TASKS ORGANIZATION and BREAKS, considering the long term consequences predictable of potentially detrimental factors. This brings us to the study of best use of BREAKS at work and in everyday life. The BREAKS universally known are related to meals, rounds of particular sensitivity or related productions and services, and to those covered by employment contracts business.

However breaks that really give moral and physical benefits for persons could be others. The meal break should provide a healthy and balanced diet calibrated on energy and expenditure required; drinking plenty of water outside of meal break, is also an invaluable source of energy and refreshment. Particular attention should be brought to the caloric intake compared to night shifts and consistency of breaks. There are also unnecessary "playful" breaks, not even healthy but more and more common in young people. However, there are other "good breaks" that can also be practiced, healthier and able to dictate a different pace, at work return as at its end.

Breathing exercises, rebirthing techniques, postural exercises and/or massages can be arranged in the workplace, individually or in groups, again using only time granted by the job. In this regard the French experience of "massage" business seems very interesting.

More structurally, other opportunities may be the autogenic training courses (manager), the dramatization of reality work (accidents) or the use of music, sometimes in contrast to noisy environments.

Just the thought of music with melody, and so the intensity of sounds measured on VERTICAL score, and the extension of time required by the work, horizontally measured, has led to compare music with the rhythms and the breaks of WORK, in order to give sparkle and vigor to the tasks, alternating time in the breaks of passage, connecting, catering will bring workers to their task giving best results from most of their efforts but at least less burdensome.

3. Conclusions

If companies and workers have not yet widely practiced these systems of health promotion in the work environment, may be our task, such as ergonomists, with our interdisciplinary, to point the way to the well-being of the individual turns into welfare of the group and company, reaching the goals, both shared and achievable, HUMAN HEALTH and 'COMPANY PROFIT.

UTOPIA?

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