

**METHODOLOGICAL ASPECTS REGARDING THE ORGANIZATIONAL STRESS
ANALYSIS****IRIMIE Sabina***Faculty of Mining, Department of Management, Environmental Engineering and Geology, University of
Petroșani, Petroșani, Romania, sabina.irimie@gmail.com***PRICOPE (MUNTEAN) Luminița Doina***Faculty of Mining, University of Petroșani, Petroșani, Romania, munteanluminita1966@gmail.com***PRICOPE Sorin***Faculty of Mining, University of Petroșani, Petroșani, Romania, pricopesorin@yahoo.com***IRIMIE Sabin Ioan***Faculty of Mining, University of Petroșani, Petroșani, Romania, nibas8511@yahoo.com*

Abstract: *This work presents a research of methodology in occupational stress analyse in the educational field, as a part of a larger study. The objectives of the work are in finding accents in existence of significant relations between stressors and effects, meaning the differences between the indicators of occupational stress to teaching staff in primary and gymnasium school, taking notice of each specific condition: the institution as an entity, the working community, the discipline he/she is teaching others, the geographic and administrative district (urban/ rural) and the quantification of stress level.*

Key words: organizational stress, educational field, security and health, risk

Introduction

In the modern world human became overstrained. The overstrain is caused by various factors, beginning with the global ones and going to the personal ones, concerning the survival (providing food, job) and self searching (interior peace). Selye [17] stated that any change in our lives causes stress, and subsequently the main quality of the modern human is to face quick changes, to adapt. But even searching this “new position of equilibrium” causes a lot of stress.

Nowadays the stress is omnipresent, the organisational stress concerns not only the employers and the employees, but mostly the international organisations (the International Labour Organization – ILO, World Health Organization - WHO, European Agency for Safety and Health at Work – EU-OSHA) that watch and assess the evolution of the phenomenon and the increase of the costs caused by the organisational stress. Thus, “stress is the second most frequently reported work related health problem in Europe and, along with other psychosocial risks, is thought to account for more than half (50–60 %) of all lost working days. A poor psychosocial work environment can have significant negative effects on workers' health.” [3, p.8]

If in 2002 the European Commission (2002) [6] calculated the costs of stress at work in the EU- 15 to 20 billion € per year, using estimates derived from other researchers (Davies and Teasdale, 1994 [2]; Levi and Lunde-Jensen, 1996 [11]) indicating that 10% of work-related illnesses were caused by stress, in 2013 (project Matrix, 2013 [13]), the cost for Europe on workplace-related depression was estimated at €617 billion per year.

This value includes the costs resulting from absenteeism and presenteeism (€ 272 billion), productivity losses (€242 billion), health care costs of €63 billion and social welfare costs in the form of payments of disability benefits (€39 billion euro). [5, p.7]

These costs alerted the EU-OSHA, thus for the first time in two successive years (2014-2015), the campaign for safe and healthy workplaces is dedicated to the “Stress Management for Healthy Workplaces” [3]. The Healthy Workplaces Campaigns (formerly known as “European Weeks for Safety and Health at Work”) are one of EU-OSHA’s principal tools for raising awareness of issues related to occupational safety and health, and promoting the idea that good health and safety is good for business.

In a recent pan-European opinion poll [4, p.7] revealed that what do European workers

think about work-related stress?:

- “72 % of workers felt that job reorganisation or job insecurity was one of the most common causes of work-related stress;
- 66 % attributed stress to ‘hours worked or workload’;
- 59 % attributed stress to ‘being subject to unacceptable behaviours such as bullying or harassment’;
- 51 % of all workers reported that work-related stress is common in their workplace;
- around four in ten workers think that stress is not handled well in their workplace.” [3, p.7]

According to the „Turbulent Economy” (Ordóñez de Pablos and Tennyson – 2014) [14], chasing a workplace, striving to keep it, the high aspirations and the enormous effort for the career development bring in the human’s life this scourge.

Organizational stress influences the individuals, organisations and the society.

2. Conceptualising the Problem

Stress, in general, and occupational stress, in particular, help become multidisciplinary area of psychology, sociology medicine, management and ergonomics that preoccupy many specialists today. From the modern conception at Hans Selye [17], who is „the genials creator of this concept” [9], to the organizational pathology of professor Mielu Zlate [19], stress has shifted from syndrome to organization disease.

In Hans Selye’s works stress is a general „adaptation syndrom” as „complex reaction not specific to body as result to the extranal information stress agents”. [18]. The stress allows the study of limits to which the human being can cope with adversities.

For Iamandescu (2002) [10] the stress concept is defined as status of tension witch overcome the body (somaticaly and pschicaly), tension witch is due to environmental demands and possibilities of the body.

Nina Pološki Vokić and Ana Bogdanić in 2007 [15, p.4] underline „occupational (job, work or workplace) stress has become one of the most serious health issues in the modern world (Lu et al., 2003, p. 479) [12], as it occurs in any job and is even more present than decades ago”. These two autors present a sugestive model of the organizational stress taken over from Cooper and Marshall, (1976) [1], (figure 1).

Queen, 2010 [16] quotes Ferrandino (2001) a plethora of reasons for the shortage of new principals: inadequate compensation, job-related stress, and time commitment issues. Also, Hayes [8] and Queen, [16] quotes Richardson (1999) care in their studied identified the following as their major sources of stress in education field: relationship with the school board, heavy workload demands, public demands and politics, state and federal mandates, and personnel issues.

3. Methodology and the research area

The hypothetical premises of this work: the existence or non- existence of occupational stress in educational field(primary and gymnasium) and the kind of influence(negative/ positive) regarding mental health, physical health, professional yield at the working place, specific to each working place and each teacher.

The research group is formed by 56 subjects (teaching staff in primary and gymnasium school) selected from two schools from rural and urban zone.

The structural criteria, besides the administrative place, are: gender, age, working status.

Regarding to gender, there are two groups. 23 of the members are male (50%), and 23 are female (50%).

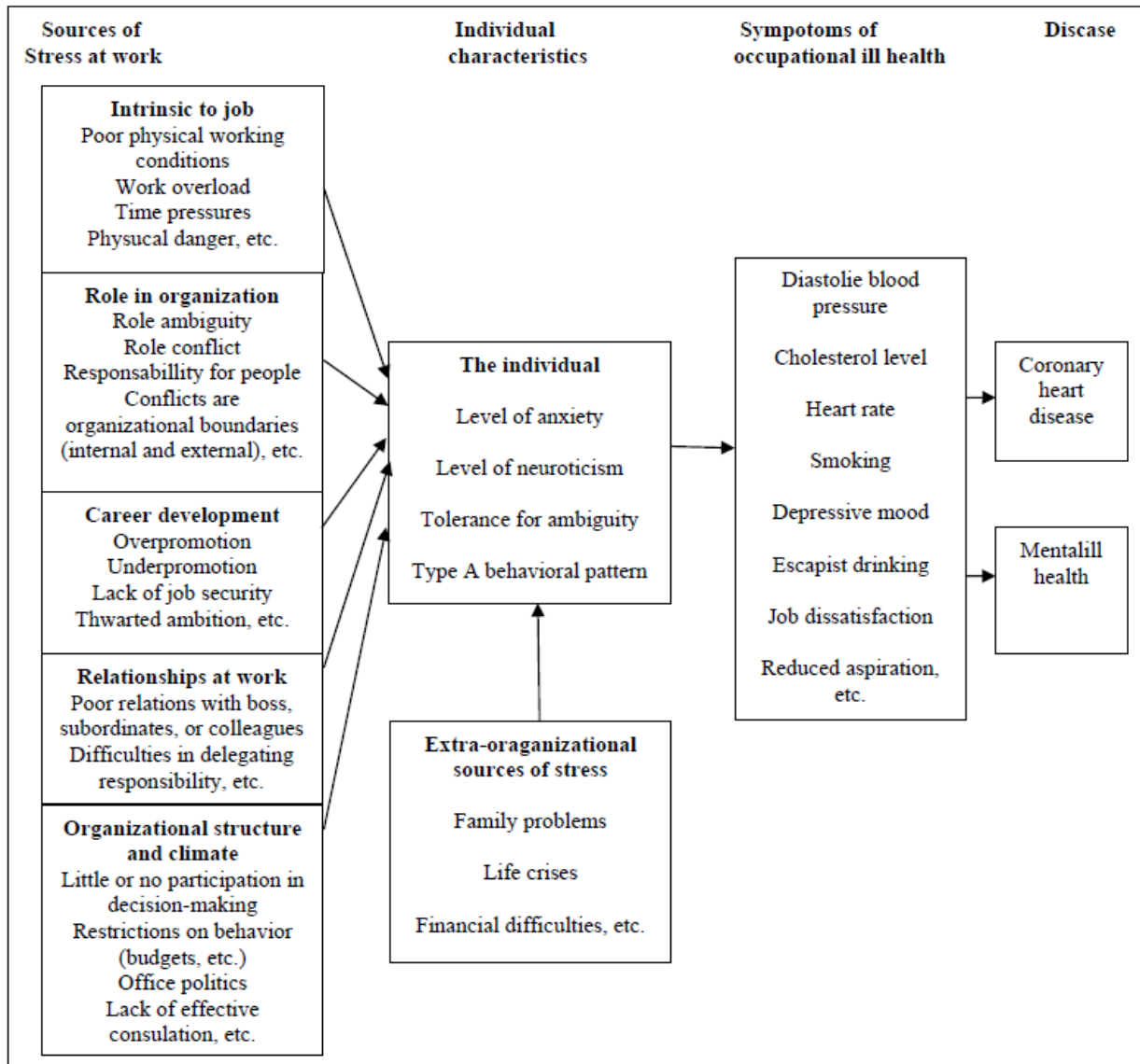
Regarding to age the subjects are distributed as the data shown in figure nr. 2, respectively the youngest 4 of the subjects(7,1%) are 25 years old, eight of them(14,3%) are 28, forty of them are between 29 and 55(71%), and the elder – four- have 58 years (7,1%).

Considering the work status 36 teachers are full-time holder employees (64,35%), and the others are on a determined period employees, qualified (figure 3).

The methodology of research use as an instrument of research the questionnaire. The O.S.I. Questionnaire- Organizational Stress Inventory contents a seven-tests battery, relevant to the subject (table 1). Each test has a different number of items and questions the following aspects:

- How do you appreciate your own health (A- feelings/ behaviour, B- physical health)
- Your day-by-day behavior

Figure 1: A model of stress at work



Source: Pološki Vokić, N., and Bogdanić, A., 2007, p.5 apud. [1, p. 12

Figure 2: The distribution of subjects by age

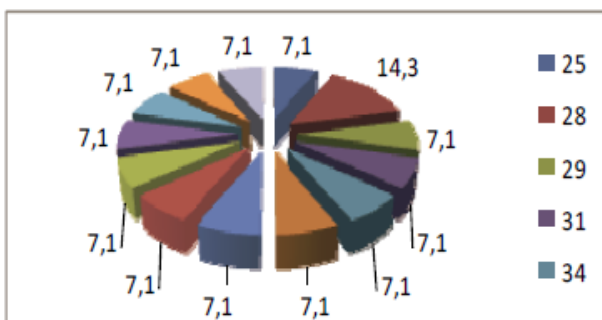
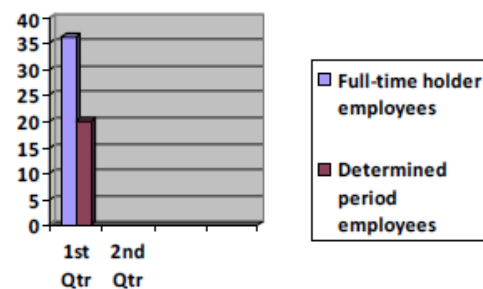


Figure 3: Subject's distribution by job status



The methodology of research use as an instrument of research the questionnaire. The O.S.I. Questionnaire- Organizational Stress Inventory contents a seven-tests battery, relevant to the subject (table 1). Each test has a different number of items and questions the following aspects:

- How do you appreciate your own health (A- feelings/ behaviour, B- physical health)
- Your day-by-day behaviour
- Sources of tension to your job
- How do you manage stress at work
- What's the measure in feeling that you can handle stress at work

- What do you value in life
- What's your opinion regarding to your job?

Questionnaire	Investigative Aspects/Subscales	Factor	Nr. itemi
1 Work satisfaction, ("What's your opinion regarding to your job?")			22 Items
	Occupation itself	F1	
	The structure and occupational design	F2	
	Organizational proceses	F3	
	Interpersonals relationships	F4	
	Work satisfaction in general	F5	
2 Your current state of mental health, ("How do you appreciate your state of mental health ")		F6	18 Items
3 Your current state of physical health		F7	12 Items
4 General behaviour, ("The way you act generally")			14 ItemS
	Attitude in life	F8	
	Behaviour style	F9	
	Ambition, need of achievement	F10	
5 Stress sources, ("Source of tension at work.")			61 de Items
	Inside factors in work	F11	
	Management role	F12	
	Interpersonal relationships	F13	
	Carieer and personal development	F14	
	Structure and occupational climate	F15	
	Interface job- work	F16	
6 Coping strategies, ("How do you manage stress.")			28 de Items
	Social support	F17	
	Task fullfilling strategy	F18	
	Logic	F19	
	The relationship between work and family	F20	
	Time	F21	
	Engagement	F22	
7 Demographic data		F23	26 Items
	You and your family		6 Items
	Professional training		2 Items
	Jobs you have accepted		8 Items
	Other interests and engagement		3 Items
	Your habbits		4 Items
	The historu of recent life		3 Items

Demographic data from the bottom of the test have statistic relevance, the questionnaire being anonymous.

The scale of measuring has 7 degrees, from 1 to 7, and it is positioned on the top of each test, adapted to each particular problem. The statistic method used to deal with the amount of data is I.N.C.P.D.M., as an agreed method by The Minister of Labor and Health, occupational stress being accepted one of the risk factors by The Department of Management of Health and Security of Labor. This method and the mathematical formula is accepted and used in legal evaluations. It is a global method, the 7 O.S.I. Questionnaire have 182 items together and, because of the method, become a single, precisely and high fidelity questionnaire. The individual notation of each questionnaire is eliminated and also the respective average, issues that can reduce the fidelity of results.

The questionnaires are destined to measure the sources of stress and also the effects of occupational stress. Generally, occupational stress is considered to be an answer to special circumstances providing negative results; this is the starting idea in constructing of this adapted questionnaire. The sources of stress are multiple, the same are the effects. It is not an "under presion" status. The sources can be related to working place, family life can be also involved. The effects on

health cannot be restricted just to physical state, but also to the way the person reacts and behaves at work and at home.

There was a separate investigation for the teaching staff from rural side and from urban side, in order to measure the existence of occupational stress, its level and the way it influences (positive/ negative) mental health, the level of psychic and physical energy consumed by each subject.

The mathematical formula used for calculating the index of occupational stress is:

$$OSI_{rg} = \frac{\sum_{i=1}^{152} f_i \cdot R_{im}}{\sum_{i=1}^{152} f_i} \quad (1)$$

where:

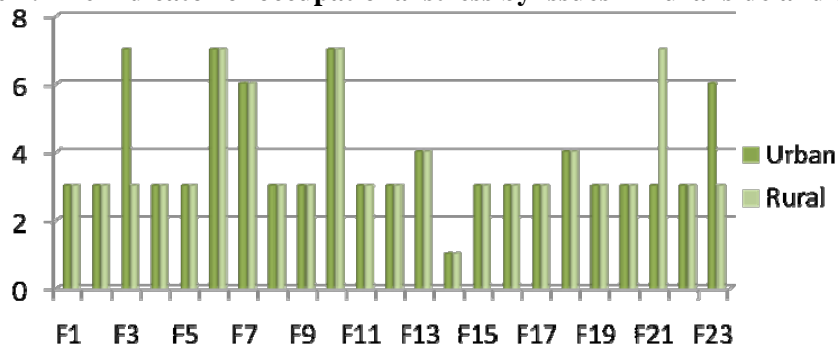
- ri= the multiplication between frequency and risk rank
- ri=fi x Rim
- fi= the stressor frequency by rank Rim
- Rim= the rank of stressor- risk(values between 1 and 7).

Considering the previous formula it is determined:

- The indicator of occupational stress in rural side is $OSI_{rg}= 4,218795$
- The indicator of occupational side in $OSI_{rg}= 3,9793939$

The indicator of occupational stress from rural side and urban side are compared in figure 4.

Figure 4: The indicator of occupational stress by issues in rural side and urban side



Conclusions

As a result of a correlation analysis between the occupational stress sources and the effects of the stress, individual differences, physical health, the working hypothesis are endorsed, i.e. there are no relevant differences between the work-related and organisational stress indicators for the teaching staff in the urban and rural areas. The work strains (stressors) are continuously and accelerated changing as a result of the technological boom. As a result, stress also changed: from pure physical strains to mental and emotional strains. This means that new, scientific and updating stress management procedures are required in order to be responsive to the real needs of the organisations and employees.

The positive consequences (less the ones caused by stress) and the negative consequences (many of the caused by stress) of the stress within the organisations cause very high costs at economic, social and individual/emotional. Thus, the stress and emotions management policies and procedures lead to ensuring and maintaining the state of health and well being.

The organisations should be even more aware of the importance of stress assessment and taking actions to fight/mitigate it. Implementing good practices, new, multidisciplinary knowledge will have positive impact on the employees, organisations, managers, families and the society.

Steven Simon, Ph.D., the “father of safety culture” suggests to apply the culture change process development, implying to change values, mentalities, attitudes and subsequently behaviour. And then Educational Leadership in a Culture of Stress – the idée of Queen [16] main success fully applain the stress management.

References

- [1]. Cooper, C. L., Marshall, J., Occupational sources of stress: a review of the literature relating to coronary heart disease and mental ill health, *Journal of occupational psychology*, 49(1): 11-28, (1976).
- [2]. Davies, N., Teasdale, P., The costs to the British economy of work accidents and work-related ill health, Health and Safety Executive, London, (1994).
- [3]. European Agency for Safety and Health at Work (EU-OSHA), Campaign Guide-Managing stress and psychosocial risks at work, Luxembourg, 2013. Available at: [Hhttps://www.healthy-workplaces.eu/en/campaign-material/introducing-the-campaign-guide](https://www.healthy-workplaces.eu/en/campaign-material/introducing-the-campaign-guide), doi:10.2802/16611
- [4]. European Agency for Safety and Health at Work (EU-OSHA), Pan-European opinion poll on occupational safety and health', 21 March 2013. Available at: [Hhttps://osha.europa.eu/en/safety-health-in-figures](https://osha.europa.eu/en/safety-health-in-figures)
- [5]. European Agency for Safety and Health at Work (EU-OSHA), Calculating the costs of work-related stress and psychosocial risks – A literature review, Publications Office of the European Union, Luxembourg, 2014, doi: 10.2802/20493
- [6]. European Commission, Guidance on work-related stress: spice of life or kiss of death, European Communities, Luxembourg, European Communities, 2002. Available at: [Hhttps://osha.europa.eu/data/links/guidance-on-work-related-stress](https://osha.europa.eu/data/links/guidance-on-work-related-stress)
- [7]. Golnaz Sadri, "An examination of academic and occupational stress in the USA", *International Journal of Educational Management*, Vol. 11 Iss: 1, pp.32 – 43, (1997).
- DOI [Hhttp://dx.doi.org/10.1108/09513549710155438](http://dx.doi.org/10.1108/09513549710155438)
- [8]. Hayes, C., *Stress Relief for Teachers*, Routledge, Taylor & Francis Group, London and New York, (2006).
- [9]. Iamandescu, I.-B., *Stresul psihic și bolile interne*, Editura All, București, (1993).
- [10]. Iamandescu, I.-B., *Stresul psihic: din perspectiva psihologică și psihosomatică*, Editura Infomedica, București, (2002).
- [11]. Levi, L., Lunde-Jensen, P., A model for assessing the costs of stressors at national level, European Foundation for Living and Working Conditions, Dublin, (1996).
- [12]. Lu, L., Cooper, C. L., Kao, S.-F., Zhou, Y., Work stress, control beliefs and well-being in Greater China – An exploration of sub-cultural differences between the PRC and Taiwan, *Journal of Managerial Psychology*, 18(6), pp. 479-510, (2003).
- [13]. Matrix, Economic analysis of workplace mental health promotion and mental disorder prevention programmes and of their potential contribution to EU health, social and economic policy objectives, Executive Agency for Health and Consumers, Specific Request EAHC/2011/Health/19 for the Implementation of Framework Contract EAHC/2010/Health/01 Lot 2, 2013. Available at: [Hhttp://ec.europa.eu/health/mental_health/docs/matrix_economic_analysis_mh_promotion_en.pdf](http://ec.europa.eu/health/mental_health/docs/matrix_economic_analysis_mh_promotion_en.pdf).
- [14]. Ordóñez de Pablos, P., Tennyson, R., (editors), *Strategic Approaches for Human Capital Management and Development in a Turbulent Economy*, IGI-Global, US, (2014).
- [15]. Pološki Vokić, N., Bogdanić, A., Individual differences and occupational stress perceived: a Croatian survey, FEB – WORKING PAPER SERIES, Paper No. 07-05, pp. 1-15, Zagreb, (2007).
- [16]. Queen, F., *Educational Leadership in a Culture of Stress*, ch. 1, Sage Publishing, US, (2010).
- [17]. Selye, H., *The stress of life*, McGraw-Hill, New York, (1956).
- [18]. Selye, H., Goupil, G., *Înțelepciunea stresului*, Cores Publishing, București, (1991).
- [19]. Zlate, M., *Tratat de psihologie organizațional-managerială*, Polirom, Iași, (2004).