

WORKING ENVIRONMENT OF HIGHER EDUCATION STAFF – A SURVEY AT UNIVERSITY OF SZEGED, HUNGARY

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ABSTRACT:

The environmental and working conditions do matter in terms of work efficacy, efficiency and our health, too. The aim of our study was to explore the working conditions of the staff of the University of Szeged, Hungary, and to characterize the potential aspects of promoting their health in the workplace. A cross-sectional study was carried out at health-care oriented and non-health-care oriented faculties of the University of Szeged. The online survey based on a self-completed questionnaire about socio-demographic characteristics and working conditions of employees. Data analyses (descriptive and analytical statistics) were performed using IBM SPSS 22.0. The research sample (n = 261) composed of 33.0% male and 67.0% female participants. More than one-fourth of respondents were exposed to noise, vibration, infection risk, and were working in the presence of chemicals, dust, and gas. Work was considered to be mentally demanding mainly, the stress appearing to be higher by age. Respondents worked with computers 5 hours daily on average; it was observed that by the increase in age less time was spent with computers. 56.5% of respondents found the possibility to get a promotion at work characteristic. Mainly moral and human appreciation characterized the university staff (55.9%), and the least appreciation came from the financial aspect (22.2%). Employees dealt with their work 10–10.5 hours daily, part of which had to be done overtime. The pressure to work extra hours characterized men and local employees mainly. By the increase of working hours and extra work time the physical and mental strain was also higher. Summarizing the results, it is advisable to carry on with the measures improving employees' infrastructural working conditions. It is also necessary to increase financial appreciation, to prevent employees from establishing their financial security elsewhere.

KEY WORDS: higher education, working conditions, physical, chemical and mental risk, overtime, moral, professional and financial appreciation

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Abbreviations:

ANOVA: Analysis of variance

SPSS: Statistical Package for Social Sciences

INTRODUCTION

Since the Ottawa Charter for Health Promotion (1986) was issued it is well known that „Health is created and lived by people within the settings of their everyday life; where they learn, work, play and love.” The notion of settings evoked the idea of taking the sole responsibility for health off the individual and examine those places and contexts as well where people live their lives (Dooris and Doherty, 2010; Whitelaw et al., 2001). The Health Promotion Glossary (1998) defines the settings for health as „The place or social context in which people engage in daily activities in which environmental, organizational and personal factors interact to affect health and wellbeing.” Accordingly, if health promotion wants to be effective, it should focus on the settings of daily activities (Dooris et al., 2014), like home, workplace, community spheres etc. For those employed by a university, this is the „context within which particular people (students, staff) live aspects of their daily lives and with which others (families, external services, wider community) interact” (Dooris et al., 2014). This important place of teaching, learning and research needs healthy, satisfied and motivated employees to be able to provide high quality services for the society. Satisfaction and motivation are prerequisites of feeling healthy. Feeling of satisfaction is influenced positively or negatively by organizational climate factors, co-worker relationships (Cohen and Wills, 1985; Thomsen et al., 1999; Mizuno et al., 2006), working conditions, organizational commitment, leadership and management (Birbirs et al., 2015).

Beside the undoubted benefit of regular wages, successful work, positive evaluation, social support of colleagues and superiors increase self-efficacy and sense of control, which in turn promote our health (Stansfeld et al., 1998; Naidoo and Wills, 1999). Feeling of support leads to job satisfaction and helps to create a positive work-related self. However, those working in higher education sometimes need to face several challenges, like decreased funding, worse working conditions, changing professional requirements, less influence and less involvement in decision-making processes (Clarke et al., 2015) or uncertain employment (Karasek, 1989). Working condition is characterized by more students with higher skill differences and special needs, longer working hours, more administrative workload and less opportunities for research, a pressure of raising extra funds and ‘publish or perish’ as well as a lack of collegiality and promoting social networks (Clarke et al., 2015). All these factors can raise employees’ level of stress which in turn might cause psychiatric problems, coronary heart disease, musculoskeletal problems and symptoms associated with gastrointestinal disorders, as well as have consequences regarding job performance and safety. Long working hours lead to fatigue and consequently risky behaviour and longer exposure to physical, chemical and other hazards (Spurgeon et al., 1997; Andrea et al., 2003).

Considering the fact that the environment and working conditions do matter in terms of work efficacy, efficiency and in turn our health, the aim of our study was to explore the working conditions of the staff of the University of Szeged, Hungary, and to characterize the potential aspects of promoting their health in the workplace.

METHODS AND PARTICIPANTS

A cross-sectional study was carried out at health-care oriented (medicine, dentistry etc.) and non-health-care oriented (e.g. economics and business) faculties of the University of Szeged. The online survey was based on a self-completed questionnaire. The sample size was 261 employees. Apart from basic socio-demographic data the questionnaire contained questions referring to the characteristics of employees' working conditions and work activities. We studied the biological, chemical, physical and psychological features of the work (infection risk, exposure to chemicals, noise, vibration, radiation, accident risk, monotony, stressors etc.). 10-points Likert scales were used to measure the extent of physical and mental stress at work (1 = not stressful; 10 = very stressful), the working atmosphere (1 = very bad, 10 = very good), and the extent of satisfaction with actions to preserve and promote employees' health (1 = not satisfied at all, 10 = completely satisfied).

Data analyses were performed using IBM SPSS 22.0. Descriptive and analytical statistics were applied (cross tabulation analysis with chi-square test, one-way ANOVA and Pearson correlations). Results were considered to be significant at $p < 0.05$.

The Regional and Institutional Human Medical Biological Research Ethics Committee of the Szent-Györgyi Albert Clinical Centre, University of Szeged approved the study protocol (No. 175/2012). Participation at the research was voluntary and anonymous.

RESULTS

Socio-demographic characteristics of the sample

The research sample composed of 33.0% male and 67.0% female participants. The mean age was 43.4 years, with the age range of 21–72 years. The respondents lived mainly in County Csongrád (95.0%), mainly within Szeged (74.7%); 13.8% commuted daily between their home and workplace. More than half of the sample was married or lived in partnership (69.8%), while 17.2% were single, 11.9% divorced and 1.1% were widow. 54.4% had one or two children, 15.3% had three or more children, while 30.3% had no children. 47.9% of the respondents had a college or university degree, of whom 40.6% had a Ph.D., and 5 people were D.Sc. also, while 9.5% had a secondary education only. Own financial status was characterized as good (18.0%) or very good (3.4%) by one-fifth of the respondents, 50.2% considered it to be satisfactory, 24.1% found it bad, and 4.2% thought it was very bad.

Working conditions

At the time of data acquisition participants – except for 5 people – were active workers (98.1%), 86.6% working as employees, while 11.5% worked in managerial positions.

More than one-fourth of respondents were exposed to noise, vibration, infection risk, and were working in the presence of chemicals, dust, and gas (*Figure 1*). These exposures were more frequently characterized by employees of the health-care, than the non-health-care oriented faculties: infection risk (48.5% vs. 19.8%; $p < 0.001$); chemicals, dust, gas, smoke, steam (41.5% vs. 13.7%; $p < 0.001$); radiation (20.0% vs. 6.9%; $p = 0.002$); lifting heavy weights (e.g. patients), uncomfortable posture (17.7% vs. 7.6%; $p = 0.014$) and accident risk (30.8% vs. 14.5%; $p = 0.002$).

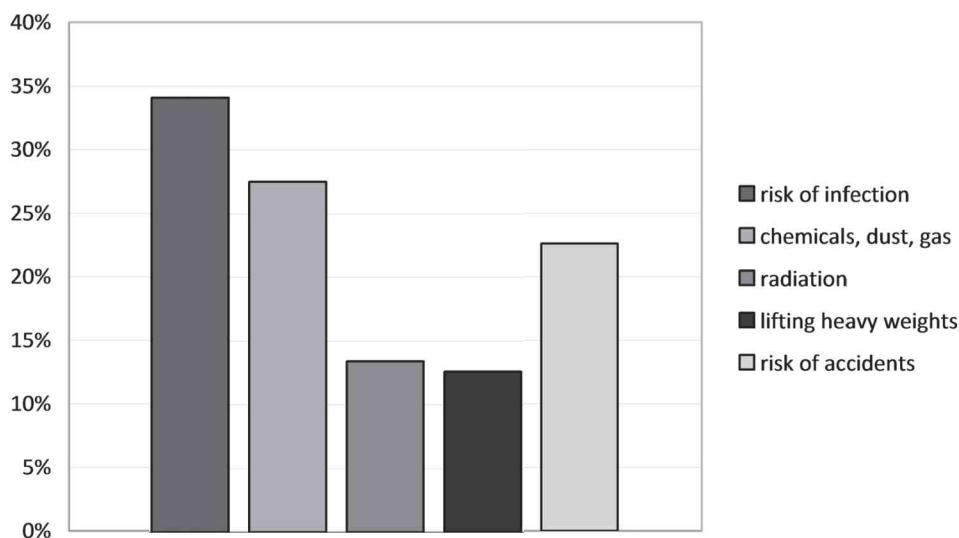


Figure 1. Frequency of health damaging working conditions

Within five years preceding the present survey there were several measures at the university which were characterized by the employees as improvements in their working conditions. These health protecting and health promoting measures obtained the average result of 4.50 ± 2.35 on a scale of ten. Such improvements were the separate dining rooms and possibilities to heat and store food (52.1%), installing an air conditioner (44.1%), ergonomic changes, such as providing furniture adjustable to the individual needs (32.2%), continuous upgrading of computers (29.9%), the possibility to have a break during work (24.1%), as well as ensuring a flexible working time that is compatible with family conditions (44.8%). There were a considerable number of employees (17.6%) who thought there were no such measures within the past five years.

Physical and mental characteristics of work

Employees worked at their workplace daily 7.79 ± 1.77 hours on average, while further 1.97 ± 1.58 hours were spent on doing overtime. Men spent significantly ($p = 0.015$) more time (2.32 ± 1.47 hours) overtime, than women (1.78 ± 1.61 hours). Those who were living in Szeged did an average of 2.06 ± 1.57 hours overtime, while commuters spent 1.39 ± 1.52 hours ($p = 0.031$) on extra work. There were no differences in doing overtime by family status and the number of children.

Respondents spent an average of 5.00 ± 2.55 hours daily in front of the computer. There was a negative correlation between age and computer use ($p = 0.008$), that is, the older someone was, the less time he/she spent with working on the computer (20–29 years old 5.68 ± 2.12 hours vs. above 60 years 3.64 ± 1.83 hours).

Respondents considered their work more mentally (average: 6.77 ± 2.31) than physically demanding (average: 4.18 ± 2.49). Physical and mental stress were in close connection ($r = 0.37$, $p < 0.01$), those, who found their work physically demanding considered it to be mentally demanding, too. The older the employee was, the more mentally demanding his/her work was considered to be ($r = -0.21$, $p < 0.01$). There were no gender differences in terms of physical and mental stress, and having children or being childless did not matter either. We haven't found differences between employees of health-care oriented and non-health-care oriented faculties, either. By the increase of working hours the level of mental ($r = 0.19$, $p < 0.01$)

and physical stress ($r = 0.15$, $p < 0.05$) became higher, as well as physical ($r = 0.23$, $p < 0.01$) and mental strain ($r = 0.14$, $p < 0.05$) was experienced. At the same time, the hours spent in front of the computer showed a negative correlation with the number of extra working hours ($r = -0.20$, $p < 0.01$), the more someone worked with a computer, the less overtime was reported.

Respondents declared that they had the possibility to utilize their knowledge and skills, and to make individual choices; their work required many independent ideas and inventiveness (Figure 2.). It is worth noting however, that at the same time permanent stress, close deadlines and frequent overtime also characterized their work.

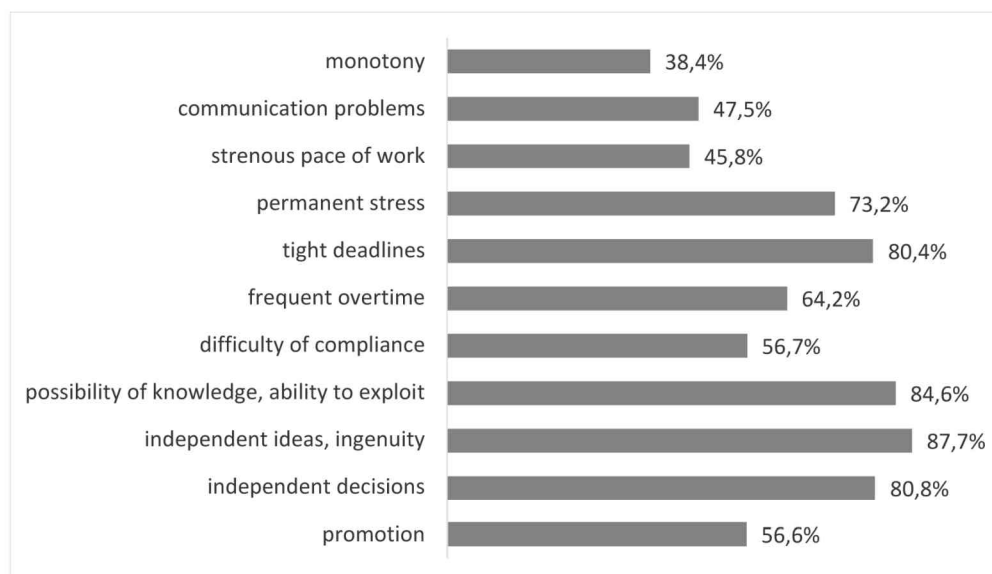


Figure 2. Psychological characteristics of working conditions

There were significant gender differences in the following specificities of work: the work required several independent ideas and inventiveness ($p = 0.028$); the possibility to make independent decisions ($p = 0.033$); promotion possibility ($p = 0.004$). These elements specified men's work mainly.

38.3% of respondents considered their work monotone; this opinion was closely connected to age ($p = 0.014$): young adults expressed this opinion significantly more often (60.9% of 20–29 year olds) than elder employees (26.3% of 60 and above year olds). There were significant differences according to financial status also ($p = 0.010$), 81.8% of those in very bad financial status, while only 22.2% of those in very good financial position considered monotony partly or completely characteristic.

There were significant differences by financial status in how close deadlines affected the perception of work ($p = 0.015$). Those in very good financial position were less characterized by close deadlines (55.6%), while those in a very bad financial situation (81.8%) thought close deadlines to be more characteristic to their work.

56.5% of respondents found the possibility to get a promotion at work characteristic. Men thought so to a higher extent than women (69.4% vs. 50.3%, $p = 0.004$). This opinion was considerably influenced by financial status ($p = 0.010$): those in a very bad or bad financial situation found their possibilities less favourable (45.5% and 39.7%) than those in a very good or good financial position (66.7% and 72.3%).

On a scale of ten work atmosphere was considered to be quite good (6.87 ± 2.02). Working conditions and mental strain negatively correlated, that is, the better someone thought work en-

vironment was, the less mentally demanding ($r = -0.17$, $p < 0.01$) his/her work was considered to be. There were no significant differences along the different demographical indices (gender, age, etc.).

Mainly moral and human appreciation characterized the university staff (55.9%), and the least appreciation came from the financial aspect (22.2%) (Figure 3.).

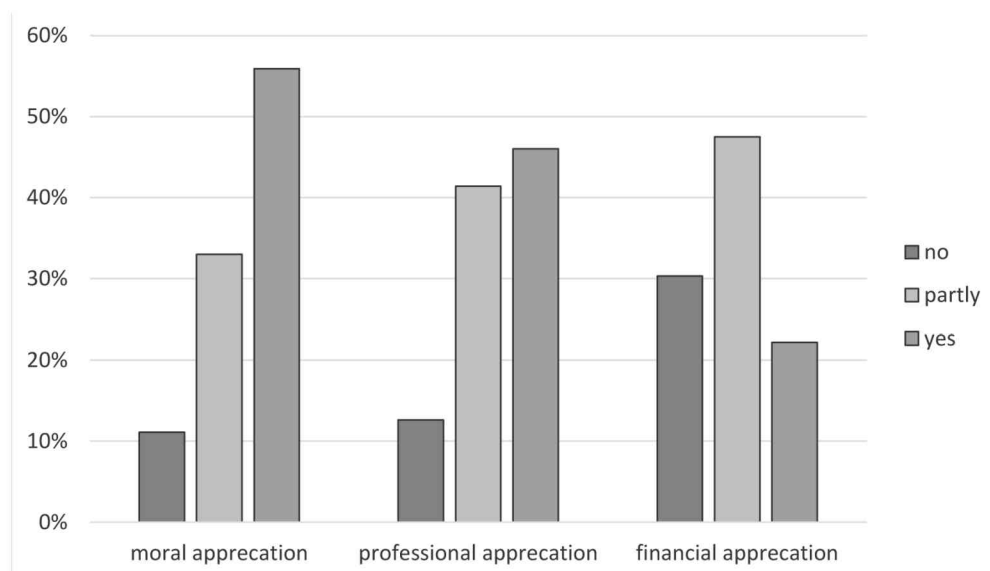


Figure 3. Self-perceived moral, professional and financial appreciation of employees at work

Financial appreciation was judged differently by men and women, while professional and moral appreciation was not. Men considered their financial status better than women ($p = 0.019$). Financial status and financial appreciation ($p < 0.001$), as well as professional appreciation ($p = 0.002$) were considerably interdependent. Those who considered their financial situation very good felt themselves financially more appreciated than those who considered it only adequate. Those who considered their financial situation bad or very bad did not feel financially appreciated at their work at all. Similar relationship was found between financial status and professional appreciation, too.

We have examined the opinions on working atmosphere by moral appreciation also. There was a clear relationship proven. According to feeling morally fully, partially or not appreciated a different opinion was expressed concerning the work atmosphere ($p < 0.001$). For example, those, who felt themselves morally, humanly completely appreciated evaluated the working atmosphere on average 3.85 points higher than those who felt no appreciation (7.82 vs. 3.97 points). The same relationship was found in case of professional appreciation and working atmosphere ($p < 0.001$). Those university employees who felt professionally more appreciated evaluated their work atmosphere on average 3.20 points higher than those who did not feel professionally appreciated (7.78 vs. 4.58 points).

Similar, but somewhat refined results were obtained by involving the financial appreciation variable. Groups formed according to financial appreciation saw their work atmosphere differently ($p < 0.001$). Those who felt themselves completely or only partially appreciated financially had the same view on their work atmosphere, there were no significant differences between the two groups. However, those missing financial appreciation considered their work atmosphere on average 1.70 and 1.78 points worse.

DISCUSSION

In our survey we have studied the working conditions of higher education staff. The mainly employee and a smaller number of managerial university staff worked under suitable working environment in general, except for those working at a health-care oriented area, who were more negative about their work conditions.

Employees referred to several measures carried out during the previous five years targeting at preserving and promoting health to create a more optimal working environment. Such measures were the introducing of breaks during work, the adjustable furniture, the upgrading of computer systems, etc. These however were considered to be not enough by some employees.

Employees dealt with their work 10–10.5 hours daily, part of which had to be done overtime. The pressure to work extra hours characterized men and local employees mainly. By the increase of working hours and extra work time the physical and mental strain was also higher. Those, who worked more extra hours considered their health status worse, which result was underlined by an international survey as well (Pislarj et al., 2011). The research by Pikó and Piczil (2007) carried out among health-care workers also showed more negative feelings towards own health by the increasing extent of extra work.

Today computer use at work is essential. Respondents worked with computers 5 hours daily on average; it was observed that by the increase in age less time was spent with computers. Borghans and ter Weel (2002) performed their age-related comparative study on German, English and American samples and found the same results, namely, the computer use of employees above the age of 49 decreases and they consider it less important.

Work was considered to be mentally demanding mainly, the stress appearing to be higher by age. Pikó and Piczil (2007) obtained similar results among health-care workers; by age there was an increase in the feeling of mental strain. Their work was basically characterized by permanent stress, close deadlines, and frequent overtime. A considerable part of them was continuously afraid of losing their job.

Positive result was that a considerable proportion of respondents found their working atmosphere suitable, with good workplace relationships.

There were differing views on financial, professional and moral, human appreciation. The feeling of professional appreciation was higher among the non-health-care oriented faculty employees, staff of faculties with a medical profile felt so only partly. Feeling financially appreciated was not significant among the university staff, only half of respondents considered their financial situation suitable, while almost one-third considered it definitely bad or very bad. Petőné's (2014) human capital research among higher education staff also highlighted the importance of being appreciated at work. As she states „The satisfaction of the teaching staff influences the quality of work and motivation, their further education plans, self-developing activities and their loyalty to the institute”. There are more and more tasks required in higher education, and it is harder and harder to meet the requirements; work intensity, considering the decrease in the proportion of qualified staff compared to the increase in the number of students, is more and more demanding. Wages do not follow these changes; higher education employees work for nearly the same income for a long time. Unterbrink et al. (2007) showed that more than one-fifth (21.6%) of teachers make high efforts for successful work, while the financial reward is low. When efforts and rewards are not balanced, the result could be not only burnout, but it could also happen that employees have a second job to obtain the right rewarding.

In summary, it is advisable to carry on with the measures improving employees' infrastructural working conditions. It is also necessary to increase financial appreciation – to ensure proper income –, to prevent employees from establishing their financial security elsewhere, and preserve the high quality education of Hungarian universities, in particular at the University of Szeged.

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