

UNIVERSITY OF SZEGED  
FACULTY OF ARTS  
GRADUATE SCHOOL OF EDUCATIONAL SCIENCES  
HEALTH EDUCATION PROGRAM

**THE POSSIBILITIES FOR THE IMPLEMENTATION OF A JOB-  
RELATED HEALTH PROMOTION PROGRAM BASED ON AN  
EMPIRICAL STUDY OF THE PERSONNEL OF THE HUNGARIAN  
CUSTOMS AND FINANCE ADMINISTRATION AND THE  
FACULTY OF SECONDARY LEVEL LAW ENFORCEMENT  
SCHOOLS**

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## **Introduction**

The years right before the financial and economic crisis created tons of problems contributing to an increased possibility of health risks for employees. The social changes on labor market completely restructured the priority order of risk factors. Besides the general physical, chemical and biological risk factors today, a new era was ushered which introduced new psychological stressors, the increase of whose frequency might mean the most important health risk at certain workplaces.

It is almost a commonplace that health indices in Hungary have been deteriorating for decades, and that the country is lagging behind other European countries in this respect. Hungary is among the last in Europe in terms of the most important indices, as in, birth rates are constantly at an all-time low, while the mortality of the younger cohorts is on the increase, the number of premature deaths is remarkably high and the mortality of middle-aged men is high at the world level. The population cares but little about their health, lacks exercise and keeps a generally unhealthy diet. The presence of risk factors of endemic diseases, such as obesity, excessive alcohol

consumption and smoking also pose a serious problem (Nagy, 2005).

Law enforcement jobs (including the police and the prison service) involve a high level of stress. Work at the Customs and Finance Administration is not less stressful, it involves highly responsible decisions, overtimes and a feeling of being under pressure - all stemming from the characteristics and specificities of law enforcement as a job. Law enforcement - by nature - is organized mainly in an autocratic, hierarchic and command-based manner. This basic character is a major determinant of the workplace atmosphere, especially because the hierarchical order means a special approach to questions of responsibility, that is, such a system favors responsibility-shifting. Proportionally to the size of the system, the distance between superiors and people in subordinate positions is increasing, and this increasing distance brings about distortions in the information flow, which is a further difficulty. The task of superiors is not easier either in a system where their job involves the coordination of a large number of specialized areas. Law enforcement personnel often find the above mentioned circumstances difficult to cope with, and that provides the rationale for the development of a health promotion program aimed especially at this target group.

## **Aims**

### *Research objectives*

The general objective was to conduct a national survey of the personnel of the Customs and Finance Administration and the faculty of secondary level law enforcement schools in terms of their opinions about and attitudes towards stress and health. The first step, therefore, was the development of an instrument for this purpose. This instrument was to be able to measure motivation, dedication, job satisfaction, workplace atmosphere, stress (both of workplace and private life origin) and career opportunities within the system. The aim of this data gathering (and analysis) was to reveal background variables that could serve the purposes of the development of a health promotion program especially for law enforcement personnel, so that, in a second step, we would be able to design such a program.

## **Hypotheses**

*At the outset of our measurements we hypothesized that:*

1. Stress tolerance would show different patterns in personnel working in different fields of customs and finance.
2. Stress levels in personnel having spent less than one year in service would be lower than in those having served for several years.
3. Stress levels of law enforcement school faculty would be significantly lower than personnel in active service, due to the different job characteristics.
4. Lower stress levels in personnel having served for less than one year would be associated with a higher level of motivation.
5. Job satisfaction among law enforcement school faculty would be higher than personnel in active service, due to a lower level of workplace pressure and responsibility.
6. Job satisfaction would be correlated with experienced stress, that is, personnel who are more satisfied with their job and working environment would be less likely to experience a high level of stress.

7. A good workplace atmosphere would be positively correlated with job satisfaction.
8. In the three examined groups, that is among faculty members of secondary level law enforcement schools
  - a. Customs and Finance Administration personnel of more than one year of service, and
  - b. Customs and Finance Administration personnel of less than one year of service
  - c. motivation would show a decreasing tendency directly proportional to the number of years spent in service.
9. Personnel who experience a lack of promotion opportunities would be significantly less motivated.
10. Higher-ranking personnel would show a higher level of dedication to their workplace than the lower-ranking.
11. Male personnel experience workplace problems more often as stressors than female personnel, to whom private/family problems count as primary stressors.

*During the interviews we hypothesized that*

12. Job satisfaction or the lack of that is closely correlated to the place of the actual work. work atmosphere is better with the teachers staff thus satisfaction is higher.

13. Work stress is closely correlated to responsibility and workload, irrespective to the place of the actual work.

14. Job satisfaction is closely correlated to the wages. The more opportunities one sees for promotion the more motivated they are.

15. Work atmosphere is defined by the role of the individual within the family.

## **Sample and Methods**

### *Instruments*

For data gathering a self-administered questionnaire combined with a guided interview was used.

### *Self-administered questionnaire*

The questionnaire was a purpose-oriented combination of items from various questionnaires that had previously been validated and published in Hungary. This method, of course, necessitated a re-validation, and for that reason the study was carried out in two phases.

**Table 1.** *The structure of the questionnaire*

<b>Part</b>	<b>Assessing</b>	<b>Number of items</b>
Demography		9
The meaning of stress and health	what the subject means by these terms	2
Siegrist stress questionnaire	overburden, efforts, safety and promotion opportunities, personal and financial recognition	23
Private stress	financial and health problems in the family, at the workplace Családi, munkahelyi anyagi & egészségügyi problémák feltárása	3
Motivation	feedback on one's work	6
Workplace atmosphere	relationship between different ranks	9
Job satisfaction	satisfaction, salary	8
Dedication and promotion	the degree of dedication and the chance that one gets promoted	10
Questions for the guided interview (only in the study phase)* *interview was conducted with only 75 subjects of the whole sample		15

Phase one, the pilot was carried out for the reason that we could see the validity of the questionnaire among a lesser group of workmates. During phase two we used the questionnaire modified according to the experience gained through the first phase. Finally the data gained from the latter questionnaires was analyzed in our study.

### **Population of the pilot**

We started the pilot in September 2008 with the personnel of Hungarian Customs and Finance Administration to measure work stress, job satisfaction, work motivation, work atmosphere and work commitment. The questionnaires were sent the participants either by postal service or by personal visitations. The contact persons appointed by the Administration assisted with coordinating the process.

Answering the questionnaires started in the first quarter of 2009 after us having taken the experience gained through a previous test into account. The paper based questionnaires then were recorded into a computer database. Participation was voluntary and anonymous. After obtaining the required permissions - through phone conversations and mailing - we started the study with a number of 1000 persons according to the permission of the administration.

### **Large sample analysis of population**

When selecting the sample of the large sample analysis we aimed to include all the Hungarian regions. Most of the law

enforcement schools gave us a permission to carry out the study excluding the Police School of Körmend. Returning the questionnaires was to take between 1 and 1,5 months. According to the permissions and the questionnaires returned we can state that the principle of area coverage was also taken into account. Of the total number of 6000 Administration employees, 603 returned the questionnaire and of the 200 strong educational faculty, 112 answered the questionnaire. As for the two phase analysis, there could happen cases when someone took part in both the Pilot and in the large sample analysis. We aimed to ensure gender equality when selecting the sample. The results gained perfectly reflect the gender ratio within the Administration: of the total work force, 68% are male and 32% are female employees. The same ratio applies to the general gender ratio of the questionnaires returned: of the total number of a 715 strong population, 448 male and 267 female participants returned the questionnaire. The methods of analysis included self-administered answering and structured interviews.

### **The questionnaires used through the pilot.**

The objective of the pilot was to compose a coherent questionnaire best suiting the aims of our study. The Pilot study enabled us to finalize the structure of the analytical instrument

which was to be a questionnaire based on voluntary filling in, however, in the final stage of our study we did apply structured interviews which contained 61 closed questions classified in different categories.

**The analytical instrument included the following components:**

The first component contained 9 questions for service personnel and 10 for the personnel of the educational faculty. The aim was to gain an insight into the demographic characteristics of the personnel.

The second component was intended to help us see the awareness of notions like stress and health so to say how the participants considered these notions to be defined.

We assisted them using different categories of replies and they were to mark the definitions that best suited their point of view. More than one answers were allowed to be marked and the two tables had more than 20 statements on the possible definitions and synonyms of stress and health. We applied Siegrist's "The measurement of effort-reward imbalance at work" to measure work stress (*Siegrist, 1996, 2004, Kopp et al., 2006*).

Non-work related stressors also have a significant role in the increased stress level of the participants. The category of

privacy-related stress included 4 questions. To measure the tension rooted in work atmosphere, work commitment and work motivation, we applied 33 questions based on the questionnaire by Dienes et al. (*E. Dienes, Robert A. Roe, Irina L. Zinovieva, Laurens A. Ten Horn*, 2000). The items related to measuring work atmosphere aimed to find out the participants' idea and relationship to the department at issue and the management of that. The job satisfaction component was to give us a hint on how satisfactory the participants see their work and the wages. Last but not least the work commitment component was to reveal the participants' opinion on possible promotions and career opportunities in within the given department.

Following the pilot we modified the age related component of the questionnaire. We carried out the actual analysis after aggregating certain categories based on the experience from the pilot. We decided to compound some age groups and some work distribution-related groups. The questions aimed to measure the awareness of notions like stress and health were considered to be satisfactory thus no modification was needed, except for deleting the possibility of giving a detailed individual answer as no one used this option during the pilot. As for the questionnaire for the educational

faculty, we expanded the period of time spent at work. Finally as far as the questionnaire for the service personnel is concerned we had to modify the management categories by aggregating lower and higher level management categories into one management category.

### **The interview**

Following the theoretical approach to the study, we decided to make us have a closer look at the results to gain more precise data therefore we chose to complete the questionnaire-based instrument with a structured interview component. This had to be done to for us to be able to include a qualitative component in the study to complete the quantitative instrument. By using this instrument we could gain a clearer picture on stress and health awareness issues. We aimed to have a more personal point of view on these notions as using the interview we could more clearly see the individuals' personal opinion by giving them a chance not to have only previously created answers. We thought it an important factor to use a half-structured interview thus we were able to give the participants a chance to give predefined answers.

Random and layered sampling were used for selecting the group of participants. The interview was carried out with 75

individuals, 50 of whom filled in the questionnaire in an office appointed for the purpose in a Middle-Hungary branch of the Administration and the rest at the Customs and Finance School and at the Police School of Adyliget. We aimed to find answers to questions considering job satisfaction and the possible reasons for dissatisfaction, the importance of promotion and workload.

### **The quantitative analysis**

The statistical analysis was done by means of SPSS-16 module. During processing the stress questionnaire, we applied the following methods of descriptive statistical analysis: means, dispersion and correlation analysis. To justify our hypotheses correlation and differentiation tools were applied. When defining the significance level, we regarded the value of at least 95% as significant, which we marked with \* and \*\* symbols in the analysis. On coding the data we took into account the different extents of items on the scale (1 for significant; 0 for non-significant), which we paid a close attention to throughout the study.

To differentiate the stress level, workload, satisfaction and work commitment between the service personnel and the educational faculty, we used a one-sample T-test and a paired T-test. As for the variables, we had a close attention to the stress

triggering factors for genders and used a two-sample T-test. The cross effects of stress level, motivation and the number of years at service were assessed using variable-analysis (ANOVA) and was checked using Levene-test (F). When comparing the medians by way of an all possible large scale paired comparison, we used a post hoc analytical tool, the Tukey-test. We also carried out correlation coefficients calculation to analyze and reveal the correlations between stress and motivation, satisfaction and stress-level, atmosphere and satisfaction, promotion and motivation. We used cluster-analysis to reveal a deeper correlation between the variables of stress and health and the four sub-categories (work motivation, work atmosphere, stress and health). Using this device we meant to discover the inner correlations system of each category. The cluster-analysis was carried out based on correlations-calculation by way of the farthest neighbor algorithm. To unfold deeper correspondence in categories like gender, age, years spent at service, education, management styles, satisfaction level, values of the Siegrist scale, social relationships and marriage as background variables, commitment, work satisfaction and stress, we also applied correlation coefficients calculation. On analyzing the interviews we aimed to discover deeper correlations therefore we used

qualitative, quantitative and descriptive analyses. When contrasting regional differences, we used variable -analysis, and as for the four-variable comparison of regions, we picked the Dunnett-test.

## **Results**

Chronic stress as a result of social insecurity (including job insecurity) is a proven risk factor for premature health deterioration and death (*Kopp, 2007*). It is generally accepted that chronic stress affects both personal health (*Mohren, Swaen, Kant, Amelsvort, Borm & Galama, 2003; Ursin & Eriksen, 2004*) and attitudes toward the organization (*Cropanzano, Rupp & Byrne, 2003; Lee & Ashforth, 1996*). In the Western culture stress is counted amongst the most dangerous workplace risk factors (*Daley & Parfitt, 1996*). Maintenance and enhancement of the health status of workers necessitates comprehensive local strategies.

Our results confirmed our hypotheses only partially. For instance, stress levels were found to be independent of the particular finance and customs division. In this respect it is notable that experienced stress levels were similar in all divisions, which means that working conditions are homogenous within the organization.

Stress levels were compared between warrant officers, officers, field officers and public servants. No significant difference was found. However, time spent in service proved to be an important factor: stress levels were significantly lower in personnel with less than one year of service. Stress, of course, may stem from factors outside the workplace. Our hypothesis that men are more vulnerable to workplace stressors than women was confirmed. Women seem to be stressed primarily by domestic stress factors, possibly partly because of their role as mothers. A good relationship with one's superiors was associated with lower stress levels in both the service personnel and the educational faculty.

As far as job satisfaction is concerned, the educational faculty proved to be more satisfied than service personnel. Our results suggest that job satisfaction is greatly influenced by promotion opportunities and how much the organization supports further education and skills trainings. Therefore, the hypothesis that good workplace atmosphere per se can enhance job satisfaction, was only partially confirmed.

Similarly, the assumption that motivation would decrease in direct proportion to years spent in service, proved to be true only for service personnel. In the case of the educational faculty,

the relation was inverse, that is, motivation actually increased with service time/experience.

The ultimate goal of our study was to gather information for a health promotion program aimed especially at customs and finance personnel as a target group.

Based on our results, the most important problem in this group is workplace stress, which, in our opinion, may be addressed by the education of stress management techniques and general, theoretical education on stress and stress management.

First of all, however, the support and dedication of the leadership has to be gained, as well as the dedication and involvement of the personnel. Furthermore, such a programme necessitates material infrastructure and human resources, such as employing advisors (*Hidvégi & Barabás, 2011*).

Interviews were conducted in offices of the Customs and Finance Administration and of the involved schools. The total number of interviewees was 75 ( $n_{\text{service personnel}}= 50$ ;  $n_{\text{faculty}}=25$ ). Each session lasted approximately 20-25 minutes. Areas of interest (six main variables) were the same as in the questionnaire, however, in these cases, subjects had the choice to give a deeper account of their thoughts on a given area of interest.

Workplace atmosphere was rated lower by service personnel, the most often named reasons for which were constant tension and overburdenedness. Respondents of the service personnel also experienced a significantly higher level of responsibility. In terms of motivation an important difference was revealed: while the main motivational factor for the educational faculty members are gaining experience being respected by other faculty members, the motivation of the service personnel is based mostly on financial rewards.

It is also important to mention that while faculty members found Monday to be an especially stressful day (because they have to get back into work after the weekend), the service personnel found every day of the week equally stressful

### **Health Promotion Plan**

In our study we resolved to create a health promotion plan for the Customs and Finance Administration, which helps to map out and promote the health status of their employees. According to the study the field where most of the improvements should be done is enhancing circumstances to lessen work stress. Practices to improve the present situation include stress-management techniques mostly by implementing exercise therapy. To ensure the sustainability of such programs, the involvement and

dedication of top management is necessary. A new scheme should be introduced, which strongly supports employees' participation and commitment. This is extremely important in each phase of implementing this program and providing appropriate technical background is also a must. We compiled a multi-level sport and exercise program which best fits the differences rooted in regional and departmental scales and also the individuals' different physical abilities and stress levels not to mention the differences in working hours.

The program was framed to be taken local needs into consideration (i.e.: on the spot exercising) and we were committed to set up an activity plan best including weather elements and different forms of exercising to make it more versatile. Other features like different workload and physical status, harmful effects of different positions and prevention of harmful effects were also very important when setting up the program. For the sake of reasonability and affordability - Customs and Finance Administration being a state subsidized institution - we aimed to include forms and tools of exercises and activities that best fit the financial requirements of such institutions. We also took into account the attitude-related diversity and we created a program both suitable for individual

and group sessions. We also included forms of exercises that have the power of motivation to the employees.

Checking health status was also a very crucial component. There are several methods to map out individuals' health and physical status, however, we go for a most simplified and economical method by introducing two main fitness level categories. The fit ones (lower level of fatigue; higher level of physical power) and the less fit ones (higher level of fatigue; lower level of physical power).

For beginners (category of the less fit ones) we recommend the sequence of exercises in the picture below. We created a mutual module for both office workers and field workers. We separated the lists of activities according to the venue recommended to do the set of exercises. Following this we defined for both the service personnel and the educational faculty those forms of sports which takes the qualities of each and every job into account and also the demands and goals that the jobs cover on the ground of free time activities. For the individuals in category 2 - who are fitter, stronger and have a better health status; have a previous experience on exercising - we also defined recreational programs and included that in the health promotion program. The employees in category 2 can also

do the activities recommended for those in category, however, we completed their program including sports - i.e. extreme sports - that require a higher level of physical abilities.

Built environment has a deep impact on health status and well-being. An aesthetic workplace helps identification and dedication too. A well-planned ratio of personal and social places enhances the way one feels. Therefore, we propose that infrastructural expansion is necessary, involving the establishment of a gym and sports yard and a club for social meetings, celebrations and for the socialization of the personnel in general. Such a club could be used for the purposes of continuing professional education as well.

Enhancement of internal communication must be a priority, as this aspect is of key importance in terms of dedication, satisfaction and motivation. It is especially important that the management and the personnel should actually keep contact, that is, regular sessions have to be organized where information and experiences are exchanged and feedback is provided. It is equally important that a system of rewards be implemented.

## **Summary**

The aim of the present study was to to conduct a national survey of the personnel of the Customs and Finance Administration and the faculty of secondary level law enforcement schools in terms of their opinions about and attitudes towards stress and health, in order to gain data for a health promotion program.

The survey was conducted in two separate phases. The first phase was a pilot phase in which we tested the validity and reliability of our instrument on a smaller population. After making the necessary alterations in the original version of the questionnaire, 900 copies were sent to the target institutions. 763 questionnaires were returned, but only 715 was completed in a way that they could be evaluated.

Our hypotheses regarding stress levels were confirmed but partially. Men proved to be more vulnerable to workplace stressors than women, who seem to be stressed primarily by domestic stress factors. Leadership style, however, does influence experienced stress: keeping a good relationship with one's superiors significantly reduces experienced stress. Among the service personnel we found significantly higher stress levels than among the educational faculty, however, the specific

customs and finance division did not have an influence on experienced stress.

The assumption that motivation would decrease in direct proportion to years spent in service, proved to be true only for service personnel. In the case of the educational faculty, the relation was inverse, that is, motivation actually increased with service time/experience.

In terms of job satisfaction, members of the educational faculty are significantly more motivated than the service personnel. Possibility of promotion exhibited a strong positive correlation with motivation.

Dedication to the organization was also examined, and it was found that higher-ranking customs and finance officials feel more like part of the organization than lower-ranking ones.

We can also draw the conclusion that workplace atmosphere in itself can not enhance job satisfaction to a significant extent; several other factors are necessary. The ultimate goal of this study was to gather data for the development of a target group-oriented health promotion program. Our results suggest that the most important aspect in such a program would be stress reduction - both short- and long-term.

## Literature

Cropanzano, R., Rupp, D. E., & Byrne, Z. S. (2003): The relationship of emotional exhaustion to work attitudes, job performance, and organizational citizenship behaviors. *Journal of Applied Psychology*, **88**. 160–169.

Daley, A. J., & Parfitt, G. (1996): Good health—Is it worth it? *Journal of Occupational and Organizational Psychology*, **69**. 121-134.

Hidvégi, P. & Barabás, K. (2011): Health Development Plan of the Customs & Excise staff of new research on the education sciences. *The Hungarian Academy of Sciences publication*.

Kopp, M. (2007): Chronic stress has been shown to increase the mortality rate.

Kopp, M., Neculai, K., Salavecz, GY., & Rózsa, S. (2006): The reliability of the tension force & reward imbalance questionnaire & validity of the Hungarian version. *Mental Health & Psychosomatics* 7. 3.sz. 231-246.

Lee, R.T. & Ashforth, B.E. (1996): A meta-analytic examination on the correlates of the three dimensions of job burnout. *Journal of Applied Psychology*, **81**. 123-133.

Mohren, D. C. L., Swaen, G.M. H., Kant, I., van Amelsvort, L.G. P.M., Borm, P. J. A., &Galama, J. M. D. (2003): Common infections and the role of burnout in a Dutch working population. *Journal of Psychosomatic Medicine*, **55**. 201–208.

Nagy, J., (2005): Health Education program in the school. *Health service of the Hungarian Education & developing*, **105**. 4. sz. 263-282.

Robert, A. R., Irina L. Z.,Dienes, E. &Laurens, A. T.T. (2000): A comparison of work motivation in Bulgaria, Hungary, and the Netherlands: Test of a Model. *Applied Psychology: an international review*, **49**. 4. sz. 658-687.

Siegrist, J. (1996): Adverse health effects of high-effort/low-reward conditions. *Journal of Occupational Health Psychology*, **1**. 1.sz. 27-41.

Siegrist, J., Starke, D., Chandola, T., Godin, I., Marmot, M., Niedhammer, I. &Peter, R. (2004): The measurement of Effort-Reward Imbalance at work: European comparisons. *Social Science &Medicine*, **58** (8): 1483-1499.

Ursin, H. &Eriksen, H. R. (2004): The cognitive activation theory of stress. *Psychoneuroendocrinology*, **29**. 567–592.