

## **SOCIO-PSYCHOLOGICAL ASPECTS OF FORMING EMOTIONAL BURNOUT AMONG HIGH SCHOOL TEACHERS**

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### **ABSTRACT**

*In this work we have studied the influence of the production process factors on the formation of professional burnout among teachers of higher education in different age groups due to the influence of various negative components of their work activity.*

*Totally 81 individuals were included in the study. All interviewed people were divided into four groups: I – up to 36.6 years old (n=17), II – from 36.6 to 48.6 years old (n=23), III – from 46.8 to 58.6 years old (n=19), IV – above 58.6 years old (n=22). By gender all groups were equal, because in every group the number of women was dominated. All information was obtained by anonymous questionnaire. Questionnaire included questions about socio-demographic, professional-anamnestic information and standardized scales: Maslach Burnout Inventory – General Survey, which allows to determine the risk of burnout development by identifying emotional exhaustion, depersonalization and personal accomplishments; Freiburg Personality Inventory, which is applied to diagnostics of the statuses and personality traits having major importance for process of social adaptation and regulation of behavior, as well as for applied researches, including diagnostics, career guidance, expertize.*

*According to the analysis of study results we found out that the highest susceptibility to the influence of emotional burnout symptoms was in the age group up to 36.6 years, while the lowest susceptibility to the negative impact was found in the age group above 58.6 years. This is explained due to the phenomenon of emotional shock at the beginning of teaching profession, which comes as a result of the teacher's knowledge of the reality of teaching in institutions of higher education.*

*Measures to reduce the influence of production process, which lead to the formation of professional burnout, as well as its prevention should be carried out at all levels, from the individual to the interpersonal and organizational, as it is necessary to take into account the individual features of the personal characteristics, conditions and directions of teacher's work activities.*

**KEYWORDS:** *emotional burnout, teachers of higher education, factors of production process.*

### **INTRODUCTION**

Professional activity of teachers of higher school is associated with a variety of loads. Besides the physical load factors, such as noise, it is needed to pay attention to high psychic tension. It

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can be caused by interactive emotional work, especially by communications between students and teachers. The main negative factors of the psychological load are conflicts between colleagues, administrative problems, absence of the recognition of the teacher's work, behavioral problems of students. Overstress can be the result of constant impact of high stress on a person, which can lead to physical and mental health problems, including burnout. Various symptoms are associated with burnout.

The concept of burnout according to C. Maslach und S. Jackson (1981a) is associated with the scales of “emotional exhaustion”, “cynicism” (depersonalization) and “personal accomplishments”.

Generally, the studies of burnout symptoms have been conducted in workers of those professions that are associated with very high emotional stress. Among them, for example, are experts whose work involves continuous direct contact with people and providing psychological support to them [Devlicharova RYu, Zasyapkina EV, 2015], as well as hospital staff for the care of patients or teachers of educational schools.

Scientific projects on studying the health of teachers in comprehensive schools confirm the increased prevalence of mental illness among teachers [Schaarschmidt U, 2005; Scheuch K et al., 2010], which are partially qualified as implications of emotional burnout. It is known that secondary school teachers have a higher risk of burnout syndrome, than other professional groups [Gluschkoff K et al., 2016]. In various studies the probability of burnout of school teachers ranged from 15 to 28%, but were partly published as higher values, up to 80% [Bauer J et al., 2006; Hillert A et al., 2013], and lower [Seibt R et al., 2012; Böckelmann I et al., 2013; Thielmann B et al., 2013; Darius S et al., 2016] were partially published. These differences can be partially explained by using various survey instruments and diagnostic criteria for the burnout symptom, and by various statistical samples [Scheuch K et al., 2015].

At the same time, very little is known about how teaching in higher educational institutions affects the health and emotional exhaustion of teachers. This pedagogical staff conducts not only teaching work but also scientific work, and also clinical work in medical universities. Data on burnout syndrome among teachers of higher educational institutions are still insufficient. There only fact is that the teachers of universities aren't prone to risk from the point of stress and burnout development [Nazari H et al., 2016].

Such social stressors as mobbing (psychological pressure on employees), personal factors, low self-efficacy or unrealistic expectations from their own profession can be the reasons for the increased burnout risk, in addition to typical strains in teaching activity at schools [Unterbrink T et al., 2007].

In other studies, for example, in a professional group of doctors, associations of the increased complete readiness “to give all the best” at work and mental health were shown [Klein J et al., 2010]. Researches of D. Preckel and co-authors (2005) and K. Gluschkoff and co-authors (2016) showed that the increased complete readiness “to give all the best” at work is directly related to fatigue, one of the main components of burnout syndrome. Overreacting can cause an imbalance between complete readiness “to give all the best” at work and rest-recovery, and, thus, to lead to the brink of exhaustion. On the other hand, the adverse strategies of overcoming difficulties can be developed in workers with already existing burnout symptoms, which in turn strengthen burnout symptoms, especially in workers with low level of job satisfaction [Avanzi L et al., 2014].

The number of burnout risk studies, depending on personality factors, is rather limited [Roessler W et al., 2013; Iakimenko M et al., 2015].

In literature, there is a contradiction in scientific views on the dynamics of the emergence and peculiarities of the burnout effect on the components of personal structure [Devlicharova RYu, Zasyapkina E, 2015]. Professional burnout is a prerequisite for the development of personal deformation, which affects the emotional, cognitive sphere of the psyche, as well as communication of the personality in the process of interpersonal interaction. The results of W. Rössler and co-authors (2013) indicate that there is a complex interaction between dysfunctional, inadequate personality and burnout.

Thus, there is a considerable need for carrying out researches to establish the dependence of personality characteristics and the burnout risk.

Present study aimed to clarify the role of teaching activity in higher educational institutions in the genesis of emotional exhaustion, as well as establishing personality traits that have preventive effect.

#### MATERIAL AND METHODS

Totally 81 teachers (57 women and 24 men) of higher medical educational institution were included in the initial selection. The study was approved by Institutional Bioethics Committee and conforms to the principles outlined in the Declaration of Helsinki (Br Med J, 1964; p. 177) with subsequent additions. Data were collected by anonymous questionnaire.

The questionnaire included questions about socio-demographic and professional data, as well as questions of standardized scales:

- Maslach Burnout Inventory – General Survey (MBI – GS), which allows to determine the risk of burnout development on the basis of three scales: “emotional exhaustion”, “cynicism” (depersonalization) and “personal accomplishments” [Maslach C, Jackson S, 1981b].
- The questionnaire of MBI – GS was used as a questionnaire containing 16 questions: 5 for emotional exhaustion and depersonalization, 6 for personal accomplishment. Questions are evaluated on a 7-step scale of response frequency from 0 – “never” to 6 – “every day”. At the same time, the respondents had to be explained about the subjective attitude to the proposed variants of the questions.
- At the first stage the detectability of professional burnout was determined by each of the scales and classified by C. Maslach and S. Jackson (1986) in groups of low, average and high-level expressiveness of burnout indices.

Next followed the examination of the results by classification of R. Kalimo and co-authors (2003). Based on the summary result, the burnout syndrome is classified in points as follows: no burnout syndrome – from 0 to 1.49; some burnout symptoms – from 1.50 to 3.49; the risk of burnout syndrome development – from 3.50 to 6.00 points.

- Freiburg Personality Inventory (Das Freiburger Persönlichkeits Inventar), which is used for diagnostics and personality traits that are of primary importance for the process of social adaptation and behavioral regulation, as well as for applied researches, including diagnostics, career guidance, expertise [Fahrenberg J et al., 1970]. The questionnaire contains 114 questions formulated in the form of statements. All questions are collected in 12 scales: neuroticism (17 questions), spontaneous aggression (13), depressiveness (14), irritability (11), sociability (15), steadiness (10), reactive aggression (aspiration to domination) (10), shyness (10), openness (13), masculinity-feminism (15). In this questionnaire there are also two additional scales: extraversion-introversion (12 questions) and emotional lability (14).

Processing of results consists of two stages. At the first stage, primary estimates are obtained. For this purpose it is necessary to use the template to

calculate the number of answers “yes” and “no” by each scale. The second stage is connected to the transfer of primary estimates into standard ones on a 9-point scale using a special table [Köhler T et al., 1991]. After processing the study results, the graphic image of the personality profile constructed with high and low estimates was carefully studied. Estimates in the range of 1-3 points refer to the low ones, 4-6 points – to the average, 7-9 points – to the high.

## RESULTS

*Social and demographic indicators:* From 81 interviewed individuals the majority were women – 57 (70.4%), men – 24 (29.6%), respectively. The examined contingent of teachers for the coordinated assessment with the researches conducted earlier has been divided into four age groups (4 percentiles), namely – up to 36.6 years, up to 48.6 years, up to 58.6 years, more than 58.6 years. In all age groups women (from 59.1% to 88.2%) prevailed that testifies to uniformity of groups on sexual character ( $p_{\text{Chi-Quadrat Pearson}} = 0.132$ ). Distribution of the contingent of the examined individuals by sex in age groups is presented in table 1.

Most of the examined individuals (63%) are currently in an official or civil marriage (partnership). Significantly smaller part (16%) is single/unmarried, 13.6% – divorced and 7.4% – widowers/widows. Distribution of the contingent of the examined individuals by marital status and preparation cycle in the age groups is presented in table 2 and 3.

Distribution of examined individuals by marital status and by preparation cycle in age groups was not uniform ( $p_{\text{Chi-Quadrat Pearson}} = 0.019$  and  $p_{\text{Chi-Quadrat Pearson}} = 0.010$ , respectively).

TABLE 1

Distribution of examined individuals  
by sex in age groups

Age group (years)	Women n (%)	Men n (%)	Total n (%)
Up to 36.6	15 (88.2)	2 (11.8)	17 (21.0)
Up to 48.6	14 (60.9)	9 (39.1)	23 (28.4)
Up to 58.6	15 (78.9)	4 (21.1)	19 (23.5)
More than 58.6	13 (59.1)	9 (40.9)	22 (27.2)
Total	57 (70.4)	24 (29.6)	81 (100)

TABLE 2

Age group (years)	Marital status				Total n (%)
	Unmarried/Single n (%)	Married n (%)	Widower/Widow n (%)	Divorced n (%)	
Up to 36.6	8 (47.1)	7 (41.2)	0 (0)	2 (11.8)	17 (100)
Up to 48.6	3 (13.0)	15 (65.2)	1 (4.3)	4 (17.4)	23 (100)
Up to 58.6	2 (10.5)	12 (63.2)	2 (10.5)	3 (15.8)	19 (100)
More than 58.6	0 (0)	17 (77.3)	3 (13.6)	2 (9.1)	22 (100)
Total	13 (16)	51 (63)	6 (7.4)	11 (13.6)	81 (100)

TABLE 3

Age group (years)	Preparation cycle in age groups			Total n (%)
	Humanitarian preparation n (%)	Natural-science preparation n (%)	Professional training n (%)	
Up to 36.6	8 (47.1)	1 (5.9)	8 (47.1)	17 (100)
Up to 48.6	4 (17.4)	11 (47.8)	8 (34.8)	23 (100)
Up to 58.6	8 (42.1)	6 (31.6)	5 (26.3)	19 (100)
More than 58.6	5 (22.7)	14 (63.6)	3 (13.6)	22 (100)
Total	25 (30.9)	32 (39.5)	24 (29.6)	81 (100)

*Professional-anamnestic data:* Total work experience of the examined individuals was 26.4 years, work experience in teaching – 19.0 years, work in this higher educational institution – 18.7 years. Distribution of working hours for types of work is represented by time for preparation of classes – 9.9 hours per week, lecturing – 2.2 hours per week, holding seminars – 9.7 hours per week, as well as taking tests – 12.1 hours per semester, admission exams – 11.8 hours semester, work on scientific projects – 7.2 hours per semester. The total amount of hours of general pedagogical load is 13.6 hours per week.

*Scale data of MBI-GS:* The obtained results of MBI-GS scales in dependence on age distribution (table 4) demonstrates that the “high” level of emotional exhaustion of teachers to the greatest extent is presented in the age group up to 36.6 years (35.3%), gradually decreasing to 4.5% with increase in age to 58.6 years, that can be explained by the formation of psychophysiological mechanisms of adaptation to accomplishment of responsible tasks and formation, eventually, of adaptative stability of the pro-

TABLE 4

Distribution of teachers depending on the level of expressiveness of burnout indicators (3 scales of MBI – GS) by age groups

Levels	Age groups (years)			
	Up to 36.6 n (%)	Up to 48.6 n (%)	Up to 58.6 n (%)	More than 58.6 n (%)
“Emotional exhaustion”				
Low	10 (58.8)	13 (56.3)	16 (84.2)	20 (90.9)
Average	1 (5.9)	6 (26.1)	1 (5.3)	1 (4.5)
High	6 (35.3)	4 (17.4)	2 (10.5)	1 (4.5)
“Cynicism” (depersonalization)				
Low	7 (41.2%)	12 (52.2%)	12 (63.2)	10 (45.5)
Average	3 (17.6%)	7 (30.4%)	6 (31.6)	11 (50.0)
High	7 (41.2%)	4 (17.4%)	1 (5.3)	1 (4.5)
“Personal accomplishments”				
Low	2 (11.8)	4 (17.4)	3 (15.8)	3 (13.6)
Average	5 (29.4)	2 (8.7)	1 (5.3)	1 (4.5)
High	10 (58.8)	17 (73.9)	15 (78.9)	18 (81.8)

duction process factors working towards the impact. The phenomena of depersonalization also have the high level of expressiveness in an age group up to 36.6 years (41.2%), gradually decreasing to 4.5% in an age group more than 58.6 years.

Assessment of the phenomena of a scale “Personal accomplishments” confirms the high level of personal accomplishments of teachers in all age groups; however, the highest level is registered in an age group more than 58.6 years that testifies to quite high self-assessment of professional efficiency of teachers’ work with the highest teaching experience.

Overall result of burnout development according to professional burnout classification by R. Kalimo and co-authors (2003) confirms its greatest expression in group of the beginning teachers (table 5). So, at the age of up to 36.6 years the lack of burnout symptoms was observed in 52.9% examined individuals, whereas in the senior age groups this indicator reached 73.7-86.4%. The opposite pattern was the appearance of some burnout symptoms – the highest values in the age group up to 36.6 years (41.2%) and the smallest – in the age group more than 58.6 years (13.6%).

It is remarkable that the only case (5.9%) of burnout risk was recorded in the youngest teacher.

Thus, some burnout symptoms are established only in 29.6% of examined individuals that dictates the need for the development and implementation of preventive measures among individuals of risk group of professional burnout emergence.

The risk of the professional burnout development is established in one case (1.23%).

*Data of the Freiburg personal questionnaire:* Study results of personality characteristics due to the age are presented in table 6.

While analyzing the study results of personality characteristics by different categories of personal properties taking into account the age, it is established, that the majority of values are within the normal range.

At the same time, in teachers of age group up to 36.6 years the value of the variables “Spontaneous Aggression”, “Irritability”, “Shyness”, “Emotional Liability” were authentically above those in individuals belonging to age group up to 58.6 years. The same regularity is found in young teachers and in comparison with individuals at the age of less than 48.6 years (“Depressiveness”, “Shyness”, “Emotional liability”), and also in relation to a group of individuals at the age of more than 58.6 years (“Irritability”, “Sociability”, “Openness”). The highest steadiness was shown by teachers of age group more than 58.6 years in comparison with those at the age of less than 48.6 years.

*Results of the correlation analysis between indicators of scales of MBI-GS and the Freiburg personal questionnaire:* As a result of the conducted correlation analysis the personality factors connected with burnout syndrome have been identified. It is established that such personality factors as reactive depressiveness, irritability, steadiness, openness, an extraversion-introversion, emotional liability, masculinism-feminism considerably correlate with total result of burnout (Table 7).

## DISCUSSION

The results of higher value of predisposition to the risk of burnout symptoms (“some burnout symptoms” and “burnout risk”) in I age group (up to 36.6 years) in comparison with other groups confirm the data of some researches in which predisposition to burnout of individuals not only of senior, but also of young age is found. Thus, influence of age on effect of burnout isn’t unambiguous. The only case (5.9%) of burnout risk was recorded in the youngest teacher, which could be explained by “emotional shock”. This state describes the situation, which a person experiences while confronting reality, when it doesn’t meet his expectations concerning professional activity.

TABLE 5

Distribution of teachers depending on risk level of emotional burnout by age groups [Kalimo R et al., 2003]

Age groups (years)	Classification of emotional burnout risk		
	No burnout symptoms	Some burnout symptoms	Burnout risk
Up to 36.6 n (%)	9 (52.9)	7 (41.2)	1 (5.9)
Up to 48.6 n (%)	14 (60.9)	9 (39.1)	0 (0.0)
Up to 58.6 n (%)	14 (73.7)	5 (26.3)	0 (0.0)
More than 58.6 n (%)	19 (86.4)	3 (13.6)	0 (0.0)

TABLE 6

Study results of personality characteristics according to the Freiburg questionnaire by age groups

Category of personality	Age group				P <sub>Kruskal-WallisTest</sub>	P <sub>Mann-Whitney-Test</sub>
	<36.6 years (I)	<48.6 years (II)	<58.6 years (III)	≥58.6 years (IV)		
Neuroticism	4.8±2.36 4.0 (1-9)	3.4±2.19 4.0 (1-7)	3.4±2.29 4.0 (1-8)	4.3±2.56 4.0 (1-8)	0.221	
Spontaneous aggression	4.0±1.32 4.0 (1-5)	3.2±2.17 3.0 (1-8)	2.6±1.54 3.0 (1-5)	3.2±2.16 3.0 (1-9)	0.072 <sup>t</sup>	I-II n.s. (0.154) I-III** (0.007) I-IV n.s. (0.060) II-III n.s. (0.403) II-IV n.s. (0.920) III-IV n.s. (0.486)
Depressiveness	4.2±1.98 4.0 (1-7)	2.8±2.07 2.0 (1-7)	2.7±1.42 3.0 (1-5)	4.1±2.06 4.0 (1-8)	0.025*	I-II* (0.036) I-III* (0.019) I-IV n.s. (0.722) II-III n.s. (0.868) II-IV n.s. (0.054) III-IV* (0.039)
Irritability	5.3±2.31 5.0 (1-9)	3.8±2.24 3.5 (1-7)	3.4±2.5 3.0 (1-8)	5.1±2.11 5.0 (1-8)	0.025*	I-II n.s. (0.059) I-III* (0.019) I-IV n.s. (0.685) II-III n.s. (0.477) II-IV n.s. (0.068) III-IV* (0.022)
Sociability	6.5±1.01 7.0 (5-8)	6.9±0.81 7.0 (5-8)	6.5±0.77 7.0 (5-8)	6.3±0.96 6.0 (4-8)	0.183	
Steadiness	5.4±2.12 5.0 (2-9)	4.4±1.79 4.5 (1-8)	5.8±2.42 6.0 (1-9)	6.0±1.79 6.0 (2-8)	0.050 <sup>t</sup>	I-II n.s. (0.163) I-III n.s. (0.616) I-IV n.s. (0.322) II-III n.s. (0.052) II-IV** (0.006) III-IV n.s. (0.810)
Reactive aggression	5.0±1.84 5.0 (1-8)	4.7±1.94 4.0 (1-8)	4.2±1.39 4.0 (1-7)	5.0±2.37 5.0 (1-9)	0.520	
Shyness	5.3±1.75 6.0 (1-8)	3.8±2.22 3.0 (1-8)	3.7±2.23 3.0 (1-7)	4.8±1.90 5.0 (1-7)	0.019*	I-II* (0.034) I-III** (0.007) I-IV n.s. (0.467) II-III n.s. (0.458) II-IV n.s. (0.124) III-IV* (0.036)
Openness	6.5±1.84 8.0 (4-9)	5.6±2.42 5.0 (1-9)	5.4±2.19 5.0 (1-9)	4.8±2.59 4.0 (1-9)	0.198	
Extraversion-introversion	5.0±1.80 4.0 (3-9)	4.6±1.68 4.0 (1-8)	4.6±1.58 4.0 (2-9)	4.3±1.52 4.0 (1-7)	0.822	
Emotional lability	4.8±2.02 4.0 (2-8)	3.7±1.73 3.0 (1-7)	3.0±1.80 3.0 (1-7)	4.2±2.16 4.0 (1-7)	0.044*	I-II* (0.042) I-III* (0.011) I-IV n.s. (0.432) II-III n.s. (0.417) II-IV n.s. (0.215) III-IV n.s. (0.093)
Masculinism-feminism	4.6±1.81 4.0 (2-8)	5.0±1.68 5.0 (2-8)	4.9±1.94 5.0 (2-8)	5.2±1.94 5.0 (1-9)	0.781	

Notes: \* – changes are reliable, \*\* – changes are highly reliable.

TABLE 7

Results of the correlation analysis (correlation coefficients and p-value) between indicators of MBI – GS scales and the Freiburg personal questionnaire

Category of personality by the Freiburg questionnaire	Scales of MBI – GS			
	Emotional exhaustion	Depersonalization	Personal accomplishments	Emotional burnout
Neuroticism	0.269* 0.016	0.276* 0.014	0.267* 0.017	0.199 0.078
Spontaneous aggression	0.268* 0.017	0.275* 0.014	0.268* 0.017	0.198 0.081
Depressiveness	0.494*** <0.001	0.372** 0.001	0.309** 0.006	0.403*** <0.001
Irritability	0.493*** <0.001	0.358** 0.001	0.309** 0.006	0.412*** 0.000
Sociability	0.336** 0.002	0.308** 0.006	0.205 0.069	0.204 0.071
Steadiness	0.321** 0.004	0.300** 0.007	0.210 0.063	0.229* 0.043
Reactive aggression	0.010 0.929	0.207 0.067	-0.017 0.885	-0.132 0.246
Shyness	0.016 0.892	0.201 0.076	0.005 0.967	-0.133 0.243
Openness	0.537*** <0.001	0.515*** <0.001	0.362** 0.001	0.382** 0.001
Extraversion-introversion	0.526*** <0.001	0.512* <0.001	0.353** 0.001	0.371** 0.001
Emotional lability	-0.260* 0.021	-0.093 0.417	-0.049 0.670	-0.247* 0.028
Masculinism-feminism	-0.268* 0.017	-0.097 0.396	-0.043 0.705	-0.254* 0.024

**Notes:** \* – correlation is reliable at the level of  $p < 0.05$  (reliable), \*\* – correlation is reliable at the level of  $p < 0.01$  (highly reliable), \*\*\* – correlation is reliable at the level of  $p < 0.001$  (very highly reliable)

Measures to reduce risk and prevent burnout need to be taken not only at the organizational level, for example by improving working conditions, or at the interpersonal level (the nature of the developing relationships in the team), but also at the individual level, taking into account the individual characteristics of the teacher's personality characteristics. In addition to external factors, the personality characteristics of teachers play a very important role in the formation of the burnout syndrome. Thus, in our study it was found that "Depressiveness", "Irritability", "Steadiness", "Openness" and "Extraversion-introversion" positively correlated with the risk of burnout by R. Kalimo and co-authors (2003), while "Emotional lability" and "Masculinism-feminism" consisted of negative links with the risk of burnout.

The literature discusses what the main cause in the formation of the burnout syndrome is: the personal characteristics of people who choose this profession or the characteristics of their professional activities? There are different approaches to the study of these relationships. As the inconsistency between the person and work increases, the probability of burnout increases. Therefore, it is necessary to pay attention to these features already when selecting a professional, since pedagogical activity imposes special demands [Ronginskaya T, 2002]. The research of M. Zelenova and A. Zakharova (2014) convincingly shows the leading role of personal characteristics of military personnel, playing an important role in the process of social interaction and the regulation of human behavior, with the level of stress. Moreover, to maintain the

mental and somatic well-being of the military personnel, feedback is also important, namely motivational components, the degree of satisfaction with the conditions of professional activity and its results. It is the set of personal prerequisites of the

psycho-constitutional and subjective-personal character that causes the formation of the emotional burnout syndrome in teachers of the special education system [Komarevtseva I, 2014].

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