

# Temperament properties as a predisposition factor to the burnout syndrome occurrence in the process of teacher's professional formation

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**ABSTRACT**--*The relevance of the study is due to the fact that the modern education system significantly increases the requirements for the personality of a professional and his professional skills. However, the desire to meet all the requirements presented in the process of professional development leads to great emotional, intellectual costs, strain, overwork, health problems, and the formation of negative personality traits. One of the negative formations in professional development is mental burnout syndrome. In this connection, the identification of factors determining its formation with the aim of developing prevention and correction programs to preserve the professional mental health becomes an urgent problem. to identify the temperamental properties of the occurrence of burnout syndrome in the process of professional formation of a teacher. To achieve the goal of the study, the comparative cross-sectional method, standardized methods, methods of mathematical statistics and qualitative data analysis were used. In the process of organizing and conducting the study, those temperament properties were determined, which determine the formation of such burnout components as emotional exhaustion, depersonalization and reduction of personal achievements at various stages of the teacher's professional development. the materials of the article can be useful for various specialists in the field of psychology as part of the development of special programs for the prevention of the occurrence of burnout syndrome.*

**Keywords**-- *burnout syndrome, pedagogical activity, the process of professional formation, temperament properties, formal-dynamic personality characteristics*

## I. INTRODUCTION

A significant number of works in science and practice are devoted to the study of the problem of mental burnout syndrome.

For the first time, Bradley introduced the phenomenon of burnout in 1969, although in science the first mention of burnout syndrome is associated with the name of the American psychiatrist H.J. Freidenberger in 1974.

An analysis of modern research does not allow us to say that there is a uniform approach to understanding burnout syndrome, its etiology, and the factors that determine it.

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Eagle V.E. He identified two approaches to the consideration of burnout syndrome: productive (burnout is considered as a certain state that includes a number of specific elements) and process (burnout is considered as a process that develops in time and includes a series of successive stages, phases).

An effective approach is presented in the works of such researchers as D.V. Direndonck, W.B. Schaufeli, C. Maslach, M.P. Leiter, procedural approach - in the works of M. Burisch, J. Edelwich, A. Brodsky, C. Cherniss. In Russia the problem of mental burnout has been actively investigated since the mid-1990s. This is the work of such researchers as T.V. Formanyuk, V.V. Boyko, V.E. Orel, A.A. Rukavishnikov, N.E. Vodopyanova, E.S. Starchenkova et al.

Based on the theoretical analysis of approaches to the consideration of burnout syndrome in our work, this phenomenon is understood as a complex, structural, dynamic formation, which is a negative effect of professionalization and is characterized by psychoemotional exhaustion, formation of negative attitudes towards work, development of a negative attitude towards oneself, one's professional achievements.

The aim of our study was to identify the temperamental properties of burnout syndrome occurrence in the process of teacher's professional formation.

Achieving this goal is due to the solution of the following tasks:

1. Compare the severity of temperament indicators in teachers with low and high levels of burnout syndrome components;
2. Identify the relationship between the components of the burnout syndrome and temperamental properties depending on the length of teaching.

**Research hypothesis:** mental burnout syndrome exhibits a complex, ambiguous nature of the relationship with the teacher temperament depending on the length of service.

## II. LITERATURE REVIEW

The study of the influence of the professions specifics on the occurrence of burnout syndrome remains a relevant trend in modern science and practice.

Studies of many foreign and domestic scientists confirm the fact that pedagogical activity belongs to the "risk group" for the burnout syndrome formation.

In this regard, studies of symptoms, factors of occurrence and course of mental burnout syndrome are ongoing.

The factors determining the occurrence of burnout syndrome are studied by A. Pines, E. Aronson, C. Maslach, K. Kondo, P. Thornton, N.E. Vodopyanova, K.S. Dubinitskaya, E.Yu. Syurtukova and others. Among these factors, two groups can be distinguished: individual factors and features of the content and working conditions.

So, for example, emotional intelligence as a resource to overcome, prevent burnout syndrome, is considered in the works of T.N. Solodkova, A.T. Larina.

Responsibility as a factor determining the development of burnout and its dynamics is considered in the work of I.V. Sedovoy.

Studies of E.Yu. Syurtukova, G.A. Vinogradova, R.F. Abdrahimova are dedicated to the personal determinants of burnout syndrome.

The work of E.V. Ermakovais devoted to the study of the value-semantic sphere of workers with burnout syndrome.

Burnout syndrome in the context of depressive disorders has been studied by R. Bianchi, I.S. Schoenfeld, E. Laurent, K. Ahola, J. Hakanen et al.

In the context of professional deformations, burnout syndrome is considered in the work of V.I. Dolgovoy, G.Yu. Goleva and A.A. Kunilova.

The differentiation of the concepts of “burnout syndrome” and “chronic fatigue syndrome” is the subject of research by A.O. Shomanbaeva, T.M. Mikhailova.

An innovative pedagogical activity lies in the works of ON Gnezdilova, R.A. Abdurakhmanova.

Enthusiasm for work as a factor in the prevention of burnout is considered by O.V. Polunina, the degree of satisfaction of the professional needs of teachers in connection with burnout is considered by V.I. Maistrenko.

Burnout as a work-related chronic stress syndrome is being studied by C. Maslach, M.P. Leiter, W.B. Schaufeli, J.J. Hakanen, A.B. Bakker

The research of E.S. Starchenkova is devoted to the study of professional requirements that contribute to the development of burnout syndrome,.

Our study is devoted to the study of the properties of temperament, causing the formation of the mental burnout syndrome.

The properties of temperament relate to stable individual characteristics of a person, which, under the influence of environmental influences, life activity, personal accumulations, real experience, are further developed and are manifested in typical, repeating patterns of behavior, the repertoire of individual strategies and tactics, the specifics of relationships, the choice of role preferences (Rusalov). Temperament is a necessary condition for the regulation and adaptation of human behavior in a normal situation, determines the stylistic characteristics of human behavior.

### **III. MATERIALS AND METHODS**

The research methods included:

1) generalization and analysis of the experience of theoretical and experimental studies of burnout syndrome and its determinants in the psychological literature;

2) statistical processing of quantitative data on the severity of burnout syndrome in pedagogical activity in the process of professional development and its conditioning by temperament properties. The study involved 176 people - teachers of secondary schools in the Perm region.

Depending on the length of service, teachers were divided into 4 following groups: length of service less than 5 years (38 people), from 5 to 10 years (32 people), from 10 to 20 years (59 people) and more than 20 years (47 people).

In order to study the burnout syndrome, the *MBI questionnaire* by K. Maslach and S. Jackson in the adaptation of N.E. Vodopyanova was used. This questionnaire allows you to assess the severity of such components of burnout as emotional exhaustion, depersonalization and reduction of personal achievements.

In order to study temperament properties, a V.M. Rusalov's questionnaire was used for the formal-dynamic properties of personality (1997).

The basis of this V.M. Rusalov's questionnaire is a special theory of personality, which allows you to highlight the following 12 properties of temperament and the indices calculated on their basis:

1. Psychomotor "ergichnost" (endurance) (ERM)
2. Intellectual "ergichnost" (endurance)(ERI)
3. Communicative "ergichnost" (endurance)(ERC)
4. Plasticity psychomotor (PM)
5. Intelligent ductility (PI)
6. Plasticity communicative (PC)
7. Psychomotor speed (SM)
8. Intelligent speed (SI)
9. Communication speed (SK)
10. Psychomotor emotionality (EM)
11. Intelligent emotionality (EI)
12. Emotionality communicative (EC)
13. The index of psychomotor activity (IPA)
14. The index of intellectual activity (IIA)
15. The index of communicative activity (ICA)
16. Total activity index (IOA)
17. Index of general emotionality (IOE)

18. General adaptability index (IOAD) There is a control scale in order to identify the social desirability of the test subject included in the V.M. Rusalov's questionnaire.

The results of the study were processed by the methods of mathematical-statistical analysis: average values by Student's T-criterion, correlation analysis (parametric method of linear correlation by K. Pearson).

The work consisted of the following steps:

1. The study of the temperament properties of teachers with a high level of severity of the components of the syndrome of mental burnout.
2. The study of the relationship of mental burnout syndrome with the temperament of teachers in the process of professional development.

#### **IV. RESULTS**

At the first stage of the results' analysis, the average values of temperament indicators were compared for teachers with low and high levels of burnout syndrome components (Table 1).

**Table1:**Data on the reliability of differences in temperament indicators among teachers with different levels of burnout

Temperament properties	Teachers with low (1) and high (2) emotional exhaustion				Teachers with low (1) and high (2) depersonalization				Teachers with low (1) and high (2) reduction in personal achievement			
	M1	M2	t-value	p	M1	M2	t-value	p	M1	M2	t-value	p
ERM	33,5	28,8	3,02	0,003	33,1	29,9	2,37	0,020	34,5	30,3	3,07	0,003
ERI	33,5	30,0	3,13	0,002					33,7	30,1	3,33	0,001
ERK									36,2	33,1	2,22	0,030
PM									36,2	32,9	2,90	0,005
PI									30,5	27,1	3,60	0,001
PC									30,3	27,6	2,37	0,020
SM	35,1	31,4	2,29	0,025					36,8	31,2	4,32	0,001
SI	32,3	29,8	2,01	0,048					33,7	30,1	3,16	0,002
SC	36,1	33,0	2,42	0,018					36,7	32,2	4,02	0,001
EM	27,0	31,3	-3,10	0,003					28,0	30,8	-2,31	0,023
EI												
EC	29,0	34,3	-3,82	0,001								
IPA	103	94,2	2,56	0,012					106	94,3	3,90	0,001
IIA	96,1	87,5	3,36	0,001					97,4	88,2	3,68	0,001
ICA									102	93,2	3,63	0,001
IOA	300	277	3,29	0,002					307	276	4,99	0,001
IOE	86,8	102	-4,15	0,001								
IOAD	214	177	4,06	0,001					214	178	4,25	0,001

Note: The table shows only those indicators that have significant differences.

It was found that the studied groups have a number of significant differences in the severity of individual properties of temperament.

Thus, teachers experiencing a state of emotional exhaustion are distinguished by a more pronounced intensity of emotional experiences in the psychomotor and communicative spheres of behavior, general emotionality, lower levels of psychomotor and intellectual “ergichnost” (endurance), lower values of speed in all areas of behavior, lower rates of psychomotor, intellectual and general activity as well as lower rates of overall adaptability.

Comparison of the severity of temperament properties among teachers with high and low levels of personal achievement reduction showed that in these groups there were no significant differences in the severity of such properties as emotionality in the intellectual and communicative spheres and, as a result, the general emotionality index. Moreover, all indicators of temperament properties, with the exception of psychomotor emotionality, in the group of teachers with a high level of reduction of personal achievements have lower values.

Teachers with a high level of depersonalization, unlike teachers who are not experiencing this condition, significantly differ only in terms of “ergichnost” (endurance) in the psychomotor sphere.

The research results of the relationship nature of mental burnout syndrome with the temperament properties of teachers in the process of professional development are presented in table. 2, 3, 4, 5.

**Table2:**Correlation between burnout components and temperament properties in a group of teachers with work experience less than 5 years

Temperament properties	Emotional exhaustion	Depersonalization	Reduction of personal achievements
EM		0,382	
EI	0,374		
EC	<b>0,471</b>	0,411	
IOE	0,378	0,426	

Note: hereinafter in the tables:

1. Only significant correlation coefficients are indicated
2. Simple font indicates correlation coefficients at significance level  $p < 0.05$ ; in bold - at  $p < 0.01$ .

An analysis of the relationship between the components of the burnout syndrome and the properties of temperament in a group of teachers with less than 5 years of teaching experience (Table 2) showed that at the stage of adaptation to professional activity, the formation of this phenomenon is determined by the temperamental indicators of the emotional sphere. Thus, it was found that teachers with a high level of emotionality in the intellectual and communicative spheres, and, as a result, a high level of general emotionality, are more susceptible to emotional exhaustion at the stage of adaptation.

This can be explained by the fact that in the process of adapting to professional activity, the teacher assumes a new social role, primary professional experience is acquired, self-mastery of professional activity is under way, the system of relations is being mastered not only with students, but also with other participants in the educational process (parents, colleagues, administration).

And in this situation, teachers with higher indicators of emotionality in the intellectual and communicative spheres are in the "risk group" for the formation of emotional exhaustion. Since they are characterized by strong emotional experiences in cases of discrepancy between the expected and actual result of mental activity, failures in the communication process, constant concern about intellectual activity, as well as in the process of social interaction. Whereas the intellectual and communicative spheres are the main components of pedagogical activity. This ultimately often leads to the realization of professional incompetence, unfitness, strong emotional stress, impulsiveness, a feeling of helplessness, hopelessness, and fatigue.

Depersonalization is formed in teachers with a high level of emotionality in the psychomotor and communicative spheres, as well as a high index of general emotionality.

This means that the vulnerability of teachers beginning teaching activities, their constant anxiety in the process of interaction with participants in the educational process, the presence of diverse, complex situations of communication with students, parents, colleagues, and the administration leads to increased negativity, to the

formality of contacts, to increased conflict situations, to the emergence of cynical attitudes and feelings towards students and their parents.

The formation of the reduction of personal achievements in this experience group is not due to the temperamental properties of a person.

An analysis of the relationship between the components of the burnout syndrome and the properties of temperament in a group of teachers with a pedagogical experience of 5 years to 10 years (Table 3) showed that at the stage of primary professionalization, which in the normative is characterized by the acquisition of professional experience, mastery of relatively stable and optimal ways of performing activities, indicators of the emotional sphere are not decisive in the formation of burnout syndrome components. This is a distinctive moment from the adaptation phase.

**Table3:**Correlation between burnout components and temperament properties in a group of teachers with work experience from 5 years to 10 years

<b>Temperament properties</b>	<b>Emotional exhaustion</b>	<b>Depersonalization</b>	<b>Reduction of personal achievements</b>
ERM	<b>-0,530</b>		0,378
ERI			0,357
ERK	-0,386		
PI	-0,429		
PC	-0,406		
SM	<b>-0,545</b>	0,454	<b>-0,487</b>
SI	<b>-0,520</b>	-0,432	<b>0,495</b>
SC		-0,388	
IPA	<b>-0,541</b>	-0,363	<b>0,497</b>
IIA	<b>-0,478</b>	-0,389	<b>0,407</b>
ICA	<b>-0,400</b>		
IOA	<b>-0,512</b>	-0,366	<b>0,437</b>
IOAD	<b>-0,514</b>		0,393

Thus, it was found that in a group of teachers with an experience of 5 to 10 years, emotional exhaustion is formed among those who have lower indicators of the following temperamental properties: “ergichnost” (endurance), plasticity, speed in the psychomotor sphere, plasticity and speed in the intellectual sphere, “ergichnost” (endurance) and plasticity in the communicative sphere, as well as lower values of the indices of psychomotor, intellectual, communicative and general activity, the index of general adaptability.

It should be noted that indicators of «ergichnost” (endurance), plasticity and speed are relatively independent components in the structure of mental activity.

Thus, “ergichnost” (endurance) reflects the degree of tension of the process of interaction with the subject environment and other people.

Plasticity (programming unit) reflects the ease (flexibility) of the process of switching from one behavior program to another.

Speed (execution unit) reflects the speed of mental processes. These properties of temperament allow teachers to cope with such features of pedagogical activity as high dynamism, information overload in combination with a lack of time for assimilation and processing of continuously incoming information, the need for quick decision-making, a high level of tension and concentration in the teaching process, high social responsibility for the results their activities, the need to quickly adapt to changes in professional activities.

Thus, the low indicators of the above listed temperamental properties do not allow to cope effectively with the listed features of pedagogical activity and, as a result, lead to increased emotional tension and exhaustion.

Such a burnout component as depersonalization positively correlates with the psychomotor speed and negatively correlates with the rate indicator in the intellectual and communicative spheres, as well as with the indices of psychomotor, intellectual and general adaptability.

It should be noted that pedagogical activity makes such demands on the professional as a high speed of operations in intellectual activity, a high social pace (ease of verbalization).

The low values of these temperamental properties cause a low individual pace in professional activity, a slower process of acquiring professional experience, and difficulties in establishing interpersonal contacts. As a result, the teacher forms formal, impersonal contacts, negative attitudes towards colleagues, children and their parents, which helps to reduce the number of interpersonal contacts in professional activities.

The reduction of personal achievements is formed among teachers with a low level of “ergichnost” (endurance) in the psychomotor and intellectual fields, the speed of intellectual, indices of psychomotor, intellectual and general activity, and the index of general adaptability.

Since at this stage of professional development, the task of the professional is to acquire professional experience, mastering the methods that are relatively stable and optimal for the teacher to carry out activities, this places high demands on the mental activity of a person, especially in intellectual activity. As a result, teachers exhibiting passivity, low involvement in the process of intellectual activity, having a narrow circle of intellectual interests, low speed of performing mental activity, low adaptive capabilities, form a feeling of professional incompetence in their professional activity and awareness of failure in it.

Consider the relationship of the burnout syndrome components and the temperament properties in the group of teachers with the experience of teaching from 10 years to 20 years (table 4).

Thus, emotional exhaustion is formed in those who have lower indicators of “ergichnost” (endurance) in the psychomotor and intellectual spheres, a lower value of the index of intellectual activity, an index of general adaptability, high values of emotionality in the intellectual and communicative spheres.

**Table 4:** Correlation between burnout components and temperament properties in a group of teachers with work experience from 10 years to 20 years

Temperament properties	Emotional exhaustion	Depersonalization	Reduction of personal achievements
ERM	<b>-0,416</b>		0,289
ERI	-0,332		0,322
PI			<b>0,394</b>
SM			<b>0,453</b>
EI	<b>0,429</b>		
EC	0,286		
IPA			<b>0,383</b>
IIA	-0,285		<b>0,347</b>
IOA			<b>0,374</b>
IOE	<b>0,347</b>		
IOAD	-0,294		<b>0,388</b>

This can be explained by the fact that at this stage - the stage of secondary professionalization - teachers develop a professional position in the standard, acquire professional self-actualization, identify themselves with the professional community, and increase the productivity and quality of pedagogical activity. This leads to the need to constantly improve their professional competence, to be highly active in intellectual activity, which leads to an increase in the level of psychological stress.

The reduction of personal achievements is formed in those who have lower indicators of “ergichnost” (endurance) in the psychomotor and intellectual spheres, plasticity of the intellectual, speed of the psychomotor, lower values of the indices of intellectual, psychomotor and general activity, and the index of general adaptability.

Thus, the mismatch of intellectual capabilities with the requirements at this stage of professional development, passivity, stereotyping in intellectual activity leads to the formation of a feeling of personal inappropriateness, the formation of dissatisfaction with pedagogical activity, and the depreciation of oneself as a professional.

Consider the relationship of the burnout syndrome components and the temperament properties in a group of teachers with more than 20 years of teaching experience (Table 5).

**Table5:**Correlation between burnout components and temperament properties in a group of teachers with work experience more than 20 years

Temperament properties	Emotional exhaustion	Depersonalization	Reduction of personal achievements
ERM	-0,323	<b>-0,414</b>	<b>0,376</b>
ERI			<b>0,383</b>
ERK			<b>0,396</b>
PM			<b>0,415</b>

PI			0,317
PC			0,336
SM			<b>0,405</b>
SI			<b>0,405</b>
SC			<b>0,582</b>
IPA			<b>0,437</b>
IIA			<b>0,401</b>
ICA			<b>0,557</b>
IOA	-0,305		<b>0,622</b>
IOAD			<b>0,534</b>

A distinctive feature of the correlation matrix in this seniority group is that single correlation relationships between the temperament properties and such components of the burnout syndrome as emotional exhaustion and depersonalization are found, while the reduction of personal achievements correlates with all temperament properties and activity indices, with the exception of indicators of the emotional sphere.

Thus, emotional exhaustion and depersonalization inversely correlates with psychomotor “ergichnost” (endurance), and an inversely correlated relationship between emotional exhaustion and the index of total activity is also found.

This can be explained by the fact that the objective of this stage of professional development - the stage of mastery and mentoring - is to transfer our professional experience. However, low muscle tone, low need for physical activity enhanced by age-related psychophysiological changes, poor health, decreased performance, weakened mental processes, accumulated professional fatigue lead to the fact that teachers have a higher level of neuropsychic stress, reduced emotional background, and indifference is manifested, aggressive reactions, cynicism, deformation of relationships with other people.

As noted above, indicators of “ergichnost” (endurance), plasticity and speed are relatively independent components in the structure of mental activity.

Low indicators of the above listed temperamental properties contribute to the fact that teachers at this stage of professional development are forming a reduction in personal achievement, which is expressed in a negative assessment of themselves as a professional.

Thus, the analysis of the data obtained during the experiment and the conclusions made confirm the hypothesis that the mental burnout syndrome exhibits a complex, ambiguous nature of the relationship with the temperament of the teacher, peculiar depending on the length of service.

## V. DISCUSSION

As a result of the study, it was revealed that the properties of temperament determine the formation of the syndrome of mental burnout in pedagogical activity, as well as the peculiarity of the dependence of the components of the burnout syndrome on the temperamental properties in the process of professional formation.

The results of the study can be used by practicing psychologists to develop programs for the prevention of burnout syndrome.

## **VI. CONCLUSION**

The objectives of the study were: to conduct a comparative analysis of the severity of temperament properties in teachers with high and low levels of mental burnout; to determine the nature of the relationship of mental burnout syndrome with the teachers' temperament properties in the process of professional development.

A comparative analysis of the temperament properties in teachers with high and low level of formation of burnout syndrome components showed the presence of significant differences in the severity of temperamental properties of teachers experiencing emotional exhaustion and a reduction in personal achievement. Whereas the subgroups of teachers with high and low severity of depersonalization in the general sample according to their temperamental properties do not significantly differ.

At the same time, a distinctive feature in the structure of temperament in teachers experiencing a state of emotional exhaustion is a higher level of severity of such a temperamental property as emotional sensitivity.

A distinctive feature of the temperament structure of teachers with a high level of reduction of personal achievements is a lower indicator of such a temperamental property as plasticity as the ability to switch from one behavior program to another.

In addition, it was revealed that the nature of the conjugation of mental burnout syndrome with the temperamental properties of teachers has its own characteristics, depending on the stage of professional development. Moreover, the greatest number of correlations between burnout syndrome indicators and temperament properties was found in a subgroup with an experience of 5 to 10 years.

The results of the experimental work can be used to develop special programs for prevention and overcoming the negative consequences of the mental burnout syndrome in teaching.

## **VII. ACKNOWLEDGMENTS**

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