

TEMPERAMENT STRUCTURES AS RISK FACTORS FOR TEACHERS' STRESS AND BURNOUT

JOANNA KŁOSOWSKA

Jagiellonian University - Institute of Psychology, Al. Mickiewicza 3, 31-120, Cracow, Poland
 email: klosowska.j@wp.pl

Abstract: The purpose of the study was to identify such temperament features and systems of temperament features which constitute a risk factor for stress and professional burnout of teachers. It was assumed that stress and burnout are related to increased emotional reactivity and perseverance as well as decreased endurance and that is possible to single out such temperament structures which predispose to these phenomena. 110 teachers from 9 elementary schools of the Poland took part in the research. In order to measure stress, professional burnout and temperament features the following questionnaires were applied: PJSQ, MBI-II and FCB-TI. It was concluded that high level of stress and burnout tends to coexist with strong emotional reactivity and perseverance, low endurance, and "sensitive" type of temperament.

Keywords: temperament, stress, burnout syndrome, teachers.

1 Introduction

Strelau (2001) claims that there are such traits and configurations of temperament traits that constitute a factor of a relative risk of stress and its negative consequences. A relative character of risk means that it is not enough to have a given temperament trait for pathology to be developed, but there have to appear other factors that in interaction with an individual's temperament increase the probability of diseases and disorders. These factors should be intense and long-lasting like for example the ones people experience in their work environment.

Undoubtedly, various professions are connected with various types of requirements imposed on an individual. They may concern competences or skills that an employee has to have in order to appropriately pursue his/her professional activities. If person does not have suitable resources, for example knowledge, he/she is not able to execute tasks ascribed to him/her. Nevertheless, it is possible to improve one's knowledge and competence and that is why their lack constitutes a risk factor of the occurrence of problems at work that are quite easy to overcome. Another type of requirements imposed on a person in work environment are the ones connected with the necessity to function in specific stimulative conditions. For example, in order to efficiently pursue professional activities of a police officer, a person has to be able to process more highly stimulative conditions than it is required from a librarian. Stimulative conditions in which an individual functions best are determined by temperament. As opposed to acquired abilities, temperament is a factor that is very difficult to change and that remains constant practically throughout one's whole life (Zawadzki, Strelau, 1997). That means that in case of temperament it is especially important to recognize its traits and structures which in a particular work environment increase the probability of disorders.

Temperamental traits are not independent – there are connections that reflect their functional linkage and interaction in the process of stimulation regulation (Zawadzki, Strelau, 1997; Zawadzki, Strelau, 2003). Thus, comprehensive assessment of an individual's adaptation possibilities should not only include temperamental traits, but also their configurations. Central importance for a person's functioning lies in relationships between energetic features of behaviour, first and foremost between emotional reactivity, endurance and activity, because these characteristics determine an individual's possibilities to process stimulations and the level of stimulus provided. Temporal characteristics of behaviour are also important because they constitute a kind of "energy channels" which increase (briskness) or decrease (perseverance) level of stimulation. (Zawadzki, Strelau, 1997).

The main purpose of the study was to identify traits and structures of temperament that constitute a risk factor for stress and burnout in teaching profession as well as traits and configurations of temperament traits that protect teachers against these phenomena.

The study included the following research questions:

1. What is the relationship between temperament traits, stress at work and occupational burnout among teachers?
2. Is it possible to single out temperament structures that constitute the risk of occupational burnout and stress at work? What is their character?

Referring to the results of previous researches (Kozak, 1996 after: Zawadzki, Strelau 1997; Trzcińska 1996, after: Strelau, 2006) and Strelau's Regulatory Theory of Temperament (Strelau, 2001) the following operational hypotheses were formulated:

- There is a significant positive correlation between emotional reactivity and perseverance and the level of stress and burnout as well as a significant negative correlation between endurance versus the level of stress and burnout among teachers.
- There is a significant difference in the level of stress and occupational burnout between groups of people with various structures of temperament traits.

2 Method

2.1 Subjects

Subjects were 110 teachers, between 24 and 65 years of age (M - mean=42), employed in 9 primary schools of Poland, located in big cities (N - number of subjects=31), small towns (N=51) and in the village (N=28), with job seniority between a year and forty-five years (M=17).

2.2 Materials and methods

It was a questionnaire-based study. The following questionnaires were used:

Perceived Job Stress Questionnaire (PJSQ) was used to measure occupational stress (Dudek et al., 2004). It is designed to measure an individual sense of occupational stress. It allows for a global assessment of stress at work and ten factors connected with stress: "a sense of burden connected with job complexity", "no rewards at work", "a sense of uncertainty caused by the organization of work", "lack of control", "lack of support", "a sense of responsibility", "physical arduousness", "a sense of threat", "social contacts", "unfriendly working conditions". The questionnaire consists of 55 statements that describe various features of work. Each statement has a 5 - point scale indicating the degree to which a given feature is burdensome, irritating or stressful for a person.

In order to determine the intensity of particular temperamental traits, Formal Characteristics of Behaviour – Temperament Inventory (FCB-TI) was used. It is a questionnaire made by Zawadzki and Strelau (2001) based on the Regulatory Theory of Temperament. The questionnaire consists of 120 items creating 6 scales that measure particular temperamental traits, i.e. briskness, perseverance, sensory sensitivity, emotional reactivity, endurance and activity.

Occupational burnout was measured by Maslach Burnout Inventory (MBI) which authors are Maslach and Jackson (1986). It consists of 22 items and measures three dimensions of occupational burnout: "emotional exhaustion" (9 items), "depersonalization" (5 items) and "personal accomplishment" (8 items). Each item has a 7-degree scale in which: 1 – means "never" and 7 – "every day". Mean values refer to a few times a year, a month, a week. High results in sub-scales of "emotional exhaustion" and "depersonalization" as well as low result in the scale of "personal accomplishment" indicate high burnout level.

2.3 Procedure

On the virtue of an agreement with a head teacher, at the end of Teaching Staff meeting, after a brief explanation by a person carrying out the study, the staff of a chosen primary school was given test sheets and instructed as to how to complete them. The time was unlimited and the participation voluntary. The study was anonymous. Questionnaires were completed in the following order: PJSQ, FCB-TI, MBI-II.

129 teachers participated in the study. Two teachers refused to participate. In seventeen cases not all answers to questions included in the questionnaires were given. As a result, the community sample of 110 teachers was obtained.

3 Results

The statistical analysis was conducted by means of a package – Statistica (version 7.0) The relationship between variables was determined on the basis of Spearman’s correlation. In order to single out groups of people with different structure of temperamental traits, k-means clustering analysis was used.

It was stated (Table 1, Table 2) that there is significant positive correlation between emotional reactivity and such variables as: “general level of stress”, “stress connected with job complexity”, “no rewards at work”, “uncertainty”, “lack of control”, “decreased accomplishment”, “emotional exhaustion”, “depersonalization”.

In case of endurance it was found there is significant negative correlation with complete level of stress as well as with “no rewards”, “uncertainty”, “burden resulting from job complexity”, “physical arduousness”, “lack of control”, “lack of support”, “a sense of responsibility” and all components of burnout: “emotional exhaustion”, “depersonalization” and “decreased personal accomplishment”.

In addition, it was observed the relationship between activity and “stress resulting from job complexity”, “no rewards at work”, “decreased personal accomplishment”, “emotional exhaustion” and “depersonalization”. Higher level of activity, understood as a trait of temperament, is connected with lower level of the intensity of these variables.

As far as perseverance is concerned, similarly to emotional reactivity, there was significant positive correlation between this trait of temperament and “general level of stress”, “burden connected with job complexity” “no rewards at work”, “uncertainty”, “no control” and all components of burnout. Analysis showed also significant correlation between briskness, “stress resulting from job complexity”, and factors of occupational burnout – the lower level of briskness, the higher intensity of these variables.

two groups of teachers with different traits of temperament were differentiated (Fig.1). They were defined as a “resistant type” – characterized by high briskness, endurance and activity and low emotional reactivity, perseverance and sensory sensitivity and a “sensitive type” – with high emotional reactivity and perseverance and low activity, briskness and endurance.

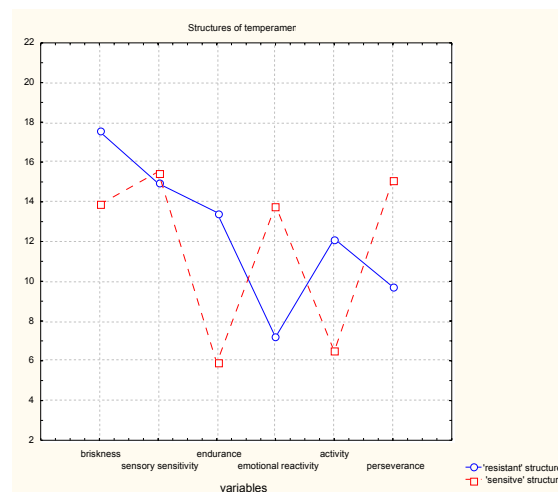


Fig. 1 Structures of temperament.

Significant differences in the general level of stress and also particular components of occupational burnout: “emotional exhaustion”, “depersonalization” and “sense of personal accomplishment” were stated between these groups. People with “sensitive” type of temperament declare significantly higher level of “general stress”, higher “emotional exhaustion” and “depersonalization” than people with “resistant” structure of temperament (Table 3).

variables	briskness	sensory sensitivity	endurance	emotional reactivity	activity	perseverance
General stress	-0,17	-0,00	-0,46	0,33	-0,15	-0,17
1	-0,30	0,05	-0,50	0,39	-0,24	-0,30
2	-0,08	0,08	-0,44	0,35	-0,21	-0,08
3	-0,08	0,05	-0,28	0,26	-0,08	-0,08
4	0,04	-0,14	-0,14	0,03	0,02	0,04
5	0,06	-0,17	-0,13	0,08	-0,05	0,06
6	-0,17	-0,00	-0,46	0,33	-0,15	-0,17
7	-0,02	0,01	-0,07	0,11	-0,09	-0,07
8	-0,36	-0,09	-0,46	0,28	-0,16	0,29
9	-0,17	-0,05	-0,29	0,08	-0,09	0,04
10	-0,08	0,03	-0,23	0,09	0,01	0,10

Table 1. Correlations between temperament and stress. 1) burden connected with job complexity (2) no rewards at work (3) uncertainty (4) social contacts (5) a sense of threat (6) physical arduousness (7) unfriendly working conditions (8) lack of control (9) lack of support (10) sense of responsibility (bold font - correlations are statistically significant at p<0,05).

variables	briskness	sensory sensitivity	endurance	emotional reactivity	activity	perseverance
1	-0,32	0,03	-0,49	0,37	-0,27	0,32
2	-0,28	0,03	-0,38	0,29	-0,25	0,26
3	-0,39	0,05	-0,47	0,41	-0,30	0,35

Table 2. Correlations between temperament and burnout. (1) decreased sense of personal accomplishment (2) emotional exhaustion (3) depersonalization (bold font - correlations are statistically significant at p<0,05).

In order to single out groups of people with different traits of temperament, k-means clustering analysis was used. Thus,

variables	'resistant' -mean	'sensitive' -mean	t	p	N 'resistant'	N 'sensitive'
1	90,19	108,87	-4,7	0,00	42	68
2	14,98	26,72	-4,72	0,00	42	68
3	16,69	24,28	-3,62	0,00	42	68
4	24,79	41,68	-5,62	0,00	42	68

Table 3. Difference in the level of stress and occupational burnout between groups of people with various structures of temperamental traits. (1) general stress (2) decreased personal accomplishment (3) emotional exhaustion (4) depersonalization (N – number of subjects; bold font - differences are statistically significant at p<0,05).

4 Discussion of results.

The purpose of the study was to identify such temperament features and systems of temperament features which constitute a risk factors for stress and professional burnout of teachers. It was assumed that teacher profession is connected with high level of stimulation provided by the work environment. It was also assumed that risk of stress and burnout is increased by temperamental traits associated with low demand for stimulation (such as emotional reactivity) and decreased by traits associated with high capability of stimulation processing (like for example endurance). Because high perseverance is usually associated with high intensity of emotional reactivity (Zawadzki, Strelau, 1997), it was assumed that this trait also should be positively correlated with stress and burnout.

The results of the study did not give any basis to reject the hypotheses made by the author. Emotional reactivity as a trait referring to the ease of reacting with intense emotions and tendency to decrease the level of tasks performed in stressful conditions turned out to be significantly connected with almost all dimensions of stress at work and occupational burnout. It was also observed that higher intensity of burnout and stress is connected with higher level of perseverance, where this trait shows relationship with the same stress factors as reactivity.

No relationship with the level of emotional reactivity was shown by such variables as: "a sense of threat", "physical arduousness", "lack of support", "a sense of responsibility", "social contacts" and "unfriendly working conditions". However, the first four factors turned out to be significantly connected with endurance (higher intensity was connected with lower intensity of this trait). Such results would indicate the significance of treating emotional reactivity and endurance as two separate traits and not the ends of the same dimension that determines an individual demand for stimulation.

Lack of endurance determining ability to react adequately under intensive external stimulation seems to have a decisive meaning as to how an individual will be able to meet such requirements and burdens as: loud noise, bad lighting, unsuitable temperature (factor: "physical arduousness"), necessity to perform tasks independently and on one's own ("lack of support"), exposure to harmful stimuli ("sense of threat"), awareness of serious consequences of mistakes, material responsibility or lack of information about the job ("a sense of responsibility"). These factors are connected to a great extent with the necessity of long-lasting vigilance and concentration as well as putting great effort into the tasks. No wonder that they are perceived by not resistant individuals as burdensome.

Negative relationship between briskness and "burden caused by job complexity" may result from the fact that thanks to easier adaptation of individuals with high level of briskness to external conditions and smaller problems to shift from one activity to another, they perform complex tasks more efficiently. These features also seem to protect an individual from the development of occupational burnout syndrome. Similarly, higher activity is connected with lower burnout and lower "sense of burden resulting from job complexity" and "stress connected with no rewards". Active individuals, thanks to higher mobility and efficiency in activities, better cope with inconveniences connected with these factors.

Relationships between discussed temperamental traits versus stress and occupational burnout are more comprehensible when we investigate their mutual connections. In the study, by means of the cluster analysis, two basic structures of temperamental traits were differentiated. They were defined as a "resistant type" – characterized by high briskness, endurance, sensitivity and low emotional reactivity, perseverance and sensory sensitivity and a "sensitive type" – with high emotional reactivity, perseverance, sensitivity and low activity, briskness and endurance.

It was shown that people with "resistant" and "sensitive" type of temperament differ as far as the level of stress at work and the intensity of particular components of occupational burnout are concerned. Stress and burnout are higher in the group of people with the structure of temperamental traits characterized by small possibilities to process stimulations. Although a "sensitive" temperament type ensures an individual effective regulation of stimulation (avoiding stimulation and tendency to relieving behaviours with small demand for stimulation), in school environment, particularly burdensome as far as stimulation is concerned, it becomes a factor of risk of stress and burnout.

Literature:

1. Dudek, B., Waszkowska, M., MEREZ, D. i HANKE, W. *Ochrona zdrowia pracowników przed skutkami stresu zawodowego*. Łódź: Instytut Medycyny Pracy im. i. prof. Jana Nofera, 2004. ISBN 83-88261-33-9.
2. Maslach, C., Jackson, S. E. *Maslach Burnout Inventory Manual*, 2nd ed. Palo Alto: Consulting Psychologists Press, 1986. ISBN 28-46518-94-7.
3. Stelau, J. Temperament a stress. Temperament jako czynnik moderujący stresory, stan skutki stresu, oraz radzenie sobie ze stresem. W: J. Heszen-Niejodek., Z. RATAJCZAK (red.) *Człowiek w sytuacji stresu*. Katowice: Wydawnictwo Uniwersytetu Śląskiego, 2000 p. 88-132. ISBN 83-226-1008-4.
4. Stelau, J. *Psychologia temperamentu*. Warszawa: PWN, 2001. ISBN 978-83-01-13423-5.
5. Stelau, J. *Temperament jako regulator zachowania Z perspektywy półwiecza badań*. Sopot: GWP, 2006. ISBN 83-7489-013-4.

6. Zawadzki, B., Stelau, J. *Formalna Charakterystyka Yachowania - Kwestionariusz Temperamentu*. Warszawa: Pracownia Testów Polskiego Towarzystwa Psychologicznego, 1997. ISBN 83-85512-84-5.

Primary Paper Section: A

Secondary Paper Section: M, N,