

# **COPING WITH STRESS AT DIFFERENT LEVELS OF WORK STRESS**

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The report analyses the resources for coping with stress with different levels of accumulated stress. It is shown by an empirical research that the active coping strategies do not lead simply to reduction of the intensity of the stress effects. The levels of accumulated stress interact with the used strategies and with high levels (of accumulated stress) the search for substitution activity, the deactivation in the organizational environment, leads to lower levels of the stress effects. Active coping strategies are effective with low and moderate stress levels.

**Keywords:** stress, coping strategies, depression, state anxiety, accumulated stress

## **INTRODUCTION**

Despite its banality at first sight, the issue about stress in organizations remains an actual topic and even many authors during the last years emphasize the necessity of intensifying the investigations upon work stress and especially upon possible interventions for optimizing the stress and with that improving the well-being of the employees and improving the effectiveness and efficacy of the organization activity (Cooper, Dewe, & O'Driscoll, 2001; Cox, Karanika, Griffiths & Houdmont, 2007). An essential part of the problem of stress in

organizations is coping. Numerous elaborations and classifications of stress coping strategies exist.

The concept “coping” is considered as an activity of the personality for maintaining and saving the balance between the requirements of the environment and the resources of the personality which satisfy these requirements (Исаева, 2008).

R. Lazarus states that main functions of the coping are: first, solving of the existing problems and second – controlling the emotions, mastering the emotions. On this basis, two basic types of stress coping strategies can be defined: strategies focused on solving the problem (problem-focused strategies) and strategies focused on controlling emotions (emotion-focused strategies) (Lazarus, Folkman, 1984). R. Lazarus develops also a method (The Ways of Coping Checklist (WCCL)) for identifying the coping strategies used by the individual by defying eight stress coping strategies.

Problem-focused stress coping correlates positively with mental well-being and mental health while emotion-focused coping correlates with lower levels of mental well-being. This means that people who face directly the stressors and undertake the solving of the problems experience more well-being compared to those who avoid the solving and focus on emotions.

Of course there are researches which show that the statement above is valid when a strategy corresponding to the situation is being chosen. A survey in a hospital shows, for instance, that the nurses effectively use problem-focused coping in situations which can be highly controlled by them and these nurses show normally expressed levels of mental well-being, while in situations which are hard to control, using of problem-focused coping correlates negatively with mental well-being. (De Rijk, Le Blanc, Schaufeli, & de Jonge, 1998).

The aim of the present research is to check the influence of the used stress coping strategies with teachers over depression and state anxiety with different levels of accumulated stress, as well as the interrelation between the assessments for the social environment, the levels of accumulated stress and stress effects.

## METHODOLOGY

### Research Tasks:

1.To reveal the assessments for the social environment with teachers, the levels of accumulated stress and the correlation between the two factors.

2.To reveal the stress effects (in this case depression and state anxiety) with teachers and the used stress coping strategies, as well as the correlation between the two factors.

3.To reveal the correlation between the levels of accumulated stress, the stress effects and the stress coping strategies.

### Research Hypotheses:

- We expect a negative correlation between the problem-focused coping strategies, the levels of accumulated stress and the stress effects – depression and state anxiety, as well as a positive correlation with emotion-focused strategies;

- We expect that there is, with certain stress coping strategies, an interaction with the levels of accumulated stress with their influence over the stress effects;

- We expect presence of a mediation model of the interrelation between the social environment assessments at school, the accumulated stress and the stress effects.

Object of the research are sixty-nine teachers, eight men and sixty-one women, from Varna city, selected from four elite high schools on the principle of

simple random sample (every fourth by lottery method). The teachers are between twenty-five and fifty-eight years old.

The following instruments for psychological measurement are used:

1. Method for social environment assessment – includes characteristics which are inherent for the three differentiated dimensions.

The first dimension consists of statements related to the organizational and functional condition of the environment in the following three scales: “normative base”, “stringency of the order” and “contradiction”.

The second dimension refers to the attitude of the concrete environment to the broad social context. It is represented by the following scales: “accessibility”, “prestige”, and “isolation”.

The third dimension, the attitude of the environment towards the individuals in it, includes the following scales: “loading”, “satisfaction” and “involvement” (Величков, Радославова, 2005).

2. Perceived Stress Scale - PS-1; (Cohen, Kamarck & Mermelstein, 1983), Bulgarian version. The method consists of fourteen items. It measures the degree in which the participants assess life events as stressful during the last month. The assessment is related mainly to the perceptions for unpredictability, lack of control and overloading (Русинова-Христова, Карастоянов, 2000).

3. The coping strategies utilized by the participants were measured by COPE inventory (Carver, Scheier & Weintraub, 1989).

The method is developed over the theoretical bases of the model for coping by R. Lazarus and the model for self-regulation of behaviour by C. Carver and M. Scheier. It is adapted by Rusinova-Hristova and Karastoyanov (2000) for Bulgarian conditions. The test contains fourteen scales which define the respective coping strategies: “active coping”, “planning”, “suppression of competing activities”, “restraint coping”, “seeking social support for instrumental

reasons”, “seeking social support for emotional reasons”, “positive reinterpretation and growth”, “denial”, “acceptance”, “turning to religion”, “focusing on and venting of emotions”, “behavioural disengagement”, “mental disengagement”, “alcohol-drug disengagement”.

4. Questionnaire for anxiety assessment by Ch. Spielberger (STAI – form Y), Bulgarian version (Щетински, Паспаланов, 1989).

The first scale (S-scale) is used in the present research. The S-scale assesses the emotional condition or in other words - a certain combination of reactions which occur in the individual while perceiving a certain situation as threatening regardless the objective danger.

5. Self Assessment Depression Scale by Zung, Bulgarian version (Кокошкарлова, 1984).

The scale serves for revealing and quantitative assessment of depressive conditions, as well as for dynamic study of their changes which occur during their treatment. The scale consists of twenty statements which present symptoms, experiences or depressive complaints. Each participant defines their frequency of occurrence during the last seven days.

## **Results**

The results from the method for measuring social support assessments, accumulated stress (perceived stress) and stress effects are subject of correlative analysis (Table 1). There are not significant correlations between social environment assessments and state anxiety. There are significant, from weak to moderate, correlations between the assessments for the normative base and stringency of the order at school, accumulated stress and depression, between isolation in school environment and depression, as well as between protectiveness and accumulated stress.

**TABLE 1. CORRELATIONS BETWEEN ACCUMULATED STRESS, DEPRESSION, STATE ANXIETY AND SOCIAL ENVIRONMENT ASSESSMENTS**

	Accumulated stress (Perceived stress)	Depression	State anxiety
Normative base	<b>-,410(**)</b>	<b>-,356(**)</b>	-,127
Stringency of the order	<b>-,293(*)</b>	<b>-,295(*)</b>	,063
Accessibility	,085	,071	,039
Prestige	-,197	-,215	-,137
Isolation	,191	<b>,277(*)</b>	-,017
Loading	,218	,106	,164
Satisfaction	-,134	,024	,009
Involvement	,183	,142	,118
Contradiction	-,083	,128	,141
Protectiveness	<b>,250(*)</b>	-.058	-.127

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

The correlations between accumulated stress (perceived stress) and stress effects are shown on table 2. There are significant, from moderate to strong, positive correlations between accumulated stress, depression and state anxiety.

**TABLE 2. CORRELATIONS BETWEEN ACCUMULATED STRESS AND STRESS EFFECTS**

	Depression	State anxiety
Accumulated stress (Perceived stress)	<b>,579(**)</b>	<b>,520(**)</b>

\*\* Correlation is significant at the 0.01 level (2-tailed).

The correlations between stress coping strategies, accumulated stress and stress effects are presented on table 3.

**TABLE 3.** CORRELATIONS BETWEEN STRESS COPING STRATEGIES, ACCUMULATED STRESS AND STRESS EFFECTS (DEPRESSION AND STATE ANXIETY)

	Depression	State anxiety	Accumulated stress
Active coping	-,046	,040	-,070
Suppression of competing activities	,004	,038	-,031
Planning	<b>-,333(**)</b>	<b>-,244(*)</b>	-,212
Restraint coping	,078	,105	,109
Seeking social support for instrumental reasons	-,134	,082	-,051
Seeking social support for emotional reasons	-,135	-,121	-,026
Positive reinterpretation and growth	<b>-,239(*)</b>	-,034	-,029
Acceptance	,033	-,041	-,125
Turning to religion	,099	,188	,181
Focusing on and venting of emotions	<b>,255(*)</b>	-,014	-,025
Denial	<b>,252(*)</b>	,186	,166
Behavioural disengagement	<b>,248(*)</b>	,096	,111
Mental disengagement	,201	,124	,226
Alcohol-drug disengagement	-,151	,044	-,044

\*\* Correlation is significant at the 0.01 level (2-tailed); \* Correlation is significant at the 0.05 level (2-tailed).

There are significant negative correlations between “Planning”, “Positive Reinterpretation and Growth” and depression, as well as between state anxiety and “Planning”. This confirms the expectation that the active coping strategies correlate negatively with stress effects. Focusing on emotions and behavioural disengagement correlates positively with depression in accordance to our preliminary expectations. Significant correlations between stress coping strategies and accumulated stress are not found.

The normality of the distribution of the factor “accumulated stress” is checked in order to verify the hypothesis for combined influence of the various levels of accumulated stress and the stress coping strategies over the stress effects (Table 4).

The results show that there is a very good concurrence between the distribution in our research and the normal one. This gives us grounds to use the characteristics of the normal distribution and divide teachers into groups - teachers with low, normally expressed and high level of accumulated stress and to try to find the correlations between stress coping strategies and stress effects with the different levels of accumulated stress.

**TABLE 4. ACCUMULATED STRESS**  
VERIFICATION OF THE NORMALITY OF THE DISTRIBUTION

Participants	Valid	69
	Missing	0
Mean		36,3913
Median		36,0000
Standard deviation		7,54636
Skewness		,177
Std. Error of Skewness		,289
Kurtosis		-,086
Std. Error of Kurtosis		,570

In table 5 are given the correlations between coping strategies and stress effects but only with the strategies that have significant correlations at least with one of the levels of accumulated stress. It is obvious from the results that with some strategies there is a full interaction between the level of accumulated stress and the coping strategy and the influence of the strategy over the stress effects: for example “Behavioural Disengagement”. With low levels of accumulated stress the correlation is significant, strong and positive, while with high stress levels the correlation is significant, strong and negative.

A full interaction between the levels of accumulated stress and the stress coping strategies over state anxiety is not noticed.

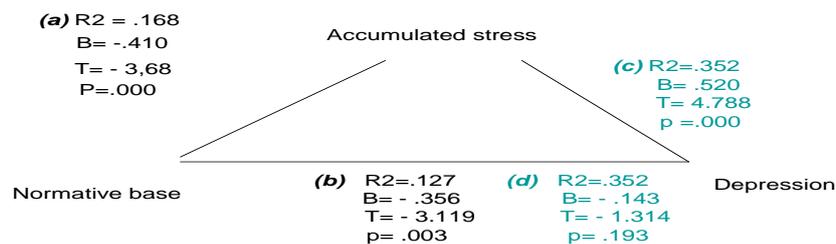
**TABLE 5. VERIFICATION OF THE HYPOTHESES FOR COMBINED INFLUENCE OF THE STRESS COPING STRATEGIES AND THE VARIOUS LEVELS OF ACCUMULATED STRESS OVER DEPRESSION AND STATE ANXIETY**

Coping strategies	Low level of accumulated stress (values under M –SD)		Moderate levels of accumulated stress (values between M+SD and M-SD)		High level of accumulated stress (values over M +SD)	
	Depression	State anxiety	Depression	State anxiety	Depression	State anxiety
Active coping	<b>-.558*</b>	<b>-.653*</b>			.313	-.211
Planning		<b>-.751**</b>	<b>-.324*</b>			-.011
Behavioural disengagement	<b>.781**</b>				<b>-.663*</b>	
Seeking social support for instrumental reasons	-.190	-.171			<b>.545*</b>	<b>-.602*</b>
Restraint coping		<b>-.585*</b>				.446
Focusing on and venting of emotions			<b>.370*</b>			
Positive reinterpretation and growth			<b>-.411**</b>			

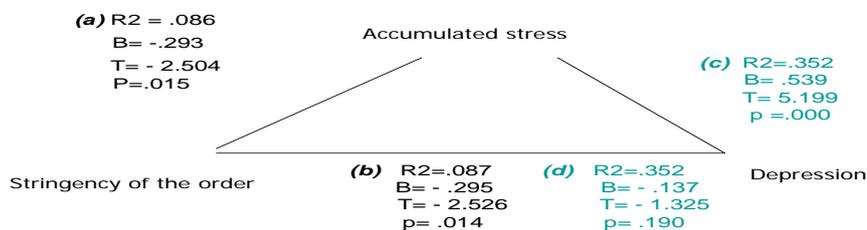
\*\* Correlation is significant at the 0.01 level (2-tailed). \* Correlation is significant at the 0.05 level (2-tailed).

The mediation hypothesis for the influence of the social environment assessments over the stress effects through the accumulated stress is also subject of verification. Verification is made for the assessments which have significant correlations with accumulated stress – “normative base”, “stringency of the order” and “protectiveness” (See table 1). A confirmation of the mediation hypothesis is obtained with two of the assessments – “normative base” and “stringency of the order” with their influence over depression (Figures 1 and 2). The mediation hypothesis is verified by a system of regression equations (MacKinnon, Fairchild., 2009). In the first equation “accumulated stress” is regressed over the “normative base” (or “stringency of the order”) – result (a), in the second equation – “depression” over “normative base” (“stringency of the order”) – result (b) and in the third equation – “depression” over “accumulated stress” and “normative base” (“stringency of the order”) – results (c) and (d). When the path “normative base” (“stringency of the order”) – “accumulated stress” – “depression” is controlled, the path of influence “normative base” (“stringency of the order”) – “depression”

remains insignificant (compare results (b) and (d)). Result (d) is insignificant which means that “normative base” (“stringency of the order”) does not influence depression directly but through accumulated stress.



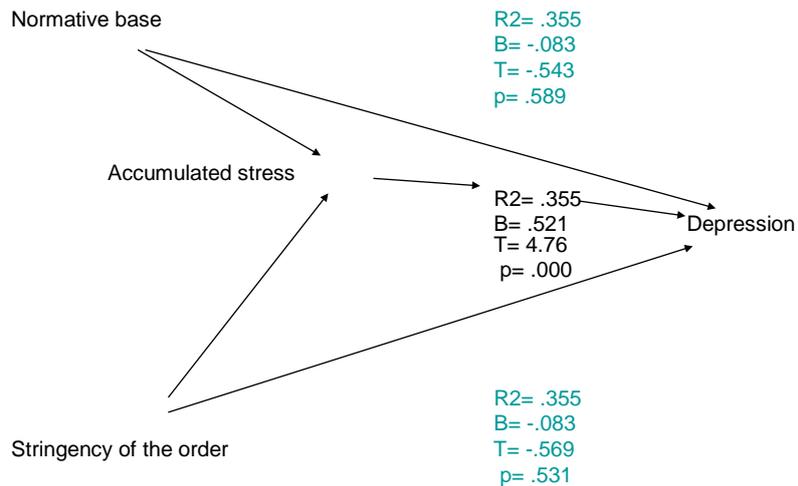
**FIGURE 1.** VERIFICATION OF THE MEDIATION HYPOTHESIS FOR A INTERRRELATION BETWEEN “NORMATIVE BASE”, ACCUMULATED STRESS AND DEPRESSION



**FIGURE 2.** VERIFICATION OF THE MEDIATION HYPOTHESIS FOR A INTERRRELATION BETWEEN “STRINGENCY OF THE ORDER”, ACCUMULATED STRESS AND DEPRESSION

The verification of the influence of “normative base” and “stringency of the order” trough mediator “accumulated stress” over depression can be seen on figure 3. The results show that depression with teachers coming from the organizational environment is mainly from two factors – normative organization

of the Bulgarian school and the management of the separate school (stringency of the order).



**FIGURE 3.** VERIFICATION OF THE MEDIATION HYPOTHESIS FOR A INTERRRELATION BETWEEN “STRINGENCY OF THE ORDER” AND “NORMATIVE BASE”, ACCUMULATED STRESS AND DEPRESSION

### DISCUSSION

The results from table 2 can be interpreted in two ways. On one hand, high levels of accumulated stress lead to high levels of depression and state anxiety. Equivalent to this hypothesis is the hypothesis that the presence of higher levels of depression and state anxiety leads to accumulation of higher stress levels in other words to experiencing more unpredictability and difficulty in coping with everyday problems. A most precise definition of the well-grounded hypothesis is possible by a longitudinal research with several series of measurement.

The expectation that the cognitive efforts for planning, reinterpreting of the situations and activeness in solving problems lead to lower levels of depression and state anxiety was confirmed. The expectation that the emotion-focused strategies correlate positively with depression was also confirmed.

The results about the interaction between the levels of accumulated stress and stress coping strategies show that with high levels of accumulated stress exactly disengagement and seeking substituting activity outside the problems at school lead to lower levels of depression with teachers while with low levels of accumulated stress disengagement, not solving the everyday problems lead to higher levels of depression. It is paradoxical at first sight but restraining from activities of all kinds, denial of activity with high levels of accumulated stress is correspondent to reduction of the levels of depression. Obviously this can be explained with the opinion that the efforts are useless and wasting of energy only deepens experiencing of impossibility and hopelessness.

Combined influence is observed with high and low levels of accumulated stress and with other coping strategies over depression, as well as in a less expressed form over state anxiety (See table 5).

With moderate levels of accumulated stress depression is determined in the first place by the cognitive perception of the situation which the individual comes across. This is clear from the correlations between depression and strategies like “focusing on and venting of emotions”, “positive reinterpretation and growth” and “planning”. There are not significant correlations between the last three strategies and depression with low levels of accumulated stress, as well as with high levels of accumulated stress.

In other words, depression correlates in a different way with the various stress coping strategies. With low levels of accumulated stress, most appropriate for reducing the levels of depression are the active strategies. With moderate levels of accumulated stress – cognitive representation, reinterpreting and planning and with high levels of accumulated stress – seeking social support and substitution activity, withdrawing from activity in the organization. The confirmation of the mediation hypothesis for influence of the social environment

assessments over the depression through the accumulated stress shows that if we want to reduce depression, this can be achieved by manipulating the mediator and this is possible through normative and organizational measures which concern the management of the organization.

The indicated data up to now and their analysis show that there is not a synonymous influence of the stress coping strategies over the stress effects. There is an interaction between the strategies and the levels of accumulated stress with their interrelation with the stress effects. In this sense, the efforts of the employees in the organization with high levels of accumulated stress can turn out to be useless and only to make the subjective well-being and the quality of the organization life worse and without supervening positive effects on the organization itself. With high levels of accumulated stress most effective are the measures undertaken by the management of the organization for controlling the occupational stress. Keeping high intensity of the sources of stress accumulation among employees, in this case the high dynamics of normative changes and the bad management even with their training for mastering effective active stress coping strategies do not bring positive effects on the organization itself.

### **CONCLUSION**

The confirmation of the hypothesis for combined influence of the various levels of accumulated stress and coping strategies over depression and anxiety shows, that with low and moderate levels of accumulated stress the employees have a potential for coping while with high levels of accumulated stress the potential is exclusively in the organizational environment.

The confirmation of the mediation hypothesis for influence of the assessments for the normative base and stringency of the order through accumulated stress over depression shows, that optimization of the organizational

environment in this case is possible by stabilization of the normative organization at the Bulgarian school, creating simple, clear rules and the respective providing for achieving the required activities, improving the management of the concrete school.

The obtained results give grounds for continuation of the investigations with an extended sample and with other professional groups in order to be clarified in larger extent the character of influence of the stress coping strategies over stress effects.

#### REFERENCES

1. Величков, А., М. Радославова. Методи за психодиагностика. С., Пандора Прим, 2005, с.80-81.
2. Исаева, Е.Р. Механизмы психологической адаптации личности: современные подходы исследованию копинга и психологической защиты. //Вестник Санкт-Петербургского университета, сер.12, 2008, Вып.2, с. 40- 46.
3. Русинова-Христова, А., Г. Карастоянов. Психологичните типове по Карл Юнг и стресът. С., Пропелер, 2000.
4. Кокошкарлова, А. Психологично изследване на личността в клиничната практика. С., МФ, 1984, с.53.
5. Русинова-Христова, А., Г. Карастоянов. Психологичните типове по Карл Юнг и стресът. С., Пропелер, 2000.
6. Щетински, Д., И. Паспаланов. Методическо пособие за работа с българската форма на въпросника за оценка на тревожността на Ч. Спилбъргър. С., БАН, 1989.

7. Carver, C.S.; Scheier, M.F.; & Weintraub, J.K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, 56, 267-283.
8. Cohen, S., Kamarck, T., Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24, 385-396.
9. Cooper, C. L., Dewe, P. J. & O'Driscoll, M. P. (2001). *Organizational Stress: A Review and Critique of Theory, Research and Applications*. Thousand Oaks, CA: Sage Publications. ;
10. Cox, T., Karanika, M., Griffiths, A. & Houdmont, J. (2007). Evaluating organizational level work stress interventions: Beyond traditional methods. *Work & Stress*, 21(4), 348-362.
11. De Rijk, A. E., Le Blanc, P. M., Schaufeli, W. B., & de Jonge, J. (1998). Active coping and need for control as moderators of the job demand-control model: Effects on burnout. *Journal of Occupational and Organizational Psychology*, 71, 1-18.
12. Lazarus, R. S., S. Folkman. (1984). *Stress, appraisal and coping*. New York, Springer Publisher.
13. Lazarus, R. S., S. Folkman. (1988). *Manual for Ways of Coping Questionnaire*. Palo Alto; CA.
14. MacKinnon, D., A. Fairchild. (2009). Current Directions in Mediation Analysis. *Current Directions in Psychological Science*, V.18, 1, 16-20.