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## Stress and its management by students in the field of education

Irena Plevova

*Department of Pedagogical and School Psychology, Faculty of Education, University of Ostrava, the Czech Republic,  
irena.plevova@post.cz*

Lucie Kremenkova

*Department Psychology and Psychopathology Faculty of Education, Palacký University in Olomouc, the Czech Republic*

Michaela Pugnerova

*Department of Pedagogical and School Psychology, Faculty of Education, University of Ostrava, the Czech Republic*

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### Abstract

Background: The subject matter of the submitted survey was to determine what coping strategies are used to manage stress by university students in the field of education. Material and methods: The research group included 51 university students of the Faculty of Education in a combined type of study (the students teach at high schools concurrently with their studies). To collect data, the standardised Stress Coping Style Questionnaire, SVF-78 was used. Results: There is a statistically significant difference between the variables. Men prefer negative coping strategies to a lower extent than women, with statistical significance. Conclusions: The submitted survey focused on coping strategies used for managing stress by university students in a combined type of study of education-related fields (who already work as teachers). They were teachers at high schools with leaving examinations and teachers at vocational schools without leaving examinations. Individual results of a broader study indicate significance of the independent variable of gender in relation to the selection of coping strategies.

### Keywords

stress, coping strategies, elimination of stress

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# Stress and its management by students in the field of education

## Authors' Contribution:

**A** Study Design  
**B** Data Collection  
**C** Statistical Analysis  
**D** Data Interpretation  
**E** Manuscript Preparation  
**F** Literature Search  
**G** Funds Collection

Irena Plevová<sup>1 ABDEF</sup>, Lucie Křeménková<sup>2 CB</sup>, Michaela Pugnerová<sup>1 FD</sup>

<sup>1</sup> Department of Pedagogical and School Psychology,  
Faculty of Education, University of Ostrava, Ostrava, the Czech Republic

<sup>2</sup> Department Psychology and Psychopathology  
Faculty of Education, Palacký University in Olomouc, the Czech Republic

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- Corresponding author:** doc. PhDr. Irena Plevová, Ph.D., University of Ostrava, Department of Pedagogical and School Psychology, Faculty of Education, Dvořákova 7, 701 03 Ostrava, the Czech Republic, e-mail: irena.plevova@post.cz
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## INTRODUCTION

Stress and its relationship with the health of an individual is a problem discussed and examined in various branches of science, in relation to various professions, including teachers [1, 2]. It is without question that teaching is socially exposed, thus leading to a high level of stress experienced by teachers. The stress and its management (coping strategies) by teachers is a frequent topic of surveys [3, 4, 5]. Many authors, both Czech and foreign ones, are concerned with coping strategies, and their definitions are far from uniform [6, 7, 8, 9]. Coping strategies are most frequently described as any cognitive or behavioural effort of an individual to minimise stress or situations perceived as potentially threatening to their wellbeing. Everyone chooses their own individual strategy with the objective to adapt to changes and, if possible, to minimise the undesirable effect on their health. In addition to the biological, physiological adaptation or defensive mechanisms, the coping processes also include conscious mental and behavioural specific stress responses that let the individual deal with excessive mental stress. As far as stress management is concerned, there is elimination of stress on the one hand, and reinforcing one's own strength to fight stress on the other hand [6, 10, 11]. We can find different classifications of coping strategies in specialised literature. Coping strategies focus on the problem, on emotions, but dysfunctional strategies are often mentioned. In the first case, the individual focuses on the problem and its active solution (time organisation, adjustment of conditions, self-control etc.). In the second case, the individual works with his or her emotions in terms of calming emotions. Dysfunctional strategies most often mean escaping the problem (such as using addictive substances), expressions of the feeling of helplessness, or giving up on the objective. Dysfunctional strategies are also characterised by rigid behaviour and passivity [10, 12, 13].

Janke and Erdmannová [14] mention positive and negative strategies. Positive strategies are further divided into the strategy of play down, in terms of admitting a smaller level of stress, and denying the fault for the incurred situation. Positive strategies also include the strategy of divergence from the stressful situation (and shifting to such behaviour that is not compatible with the experienced stress), strategy of substitutional satisfaction (divergence to positive activities or situations), and strategy of situation control (analysis of the situation), reaction control (controlling and maintaining one's reactions with emotionally charged overtones), and the strategy of positive self-instruction (awareness of one's own competences and the ability to control the stressful situation). Negative strategies include flight tendencies (tendency to resign to get out of the stressful situation), rumination (inability to stop thinking about the problem, continuous contemplation of the situation), resignation (giving up, being overwhelmed by the feeling of despair and helplessness), and self-accusation (accusing oneself of causing the stressful situation). These strategies amplify stress and indicate the lack of coping competences, using escape strategies, resignation, or the inability to relax.

Stress and coping methods are the key topic in the teaching profession, which is generally regarded as a profession with a high level of stress. The objective of the survey was to determine the preference of coping strategies in students of the combined education studies. The defined objective of the survey will be put into context with the independent variables of gender and vocational integration of the students – teachers at high schools with the leaving examination and teachers at vocational schools without the leaving examination.

## RESEARCH QUESTIONS

1. Is there a difference in the selection of negative coping strategies between teachers at high schools with leaving examinations and teachers at vocational schools without leaving examinations?
2. Is there a difference in the selection of negative coping strategies in relation to the teachers' gender?

## MATERIAL AND METHOD

The research group included 51 university students of the Faculty of Education, in a combined type of study (the students teach at high schools concurrently with their studies). 37 women, 14 men, 24 teachers at high schools with leaving examination and 27 teachers at vocational schools without leaving examination.

The standardised Stress Coping Style Questionnaire, SVF [14] was used to collect data. It is a multidimensional self-assessment list capturing individual tendencies in responding to stress in stressful situations. It assesses both the positive and negative strategies. The reliability of the questionnaire in the individual dimensions ranges at  $\alpha = 0.74-0.96$ . The questionnaire is structured into 13 scales, containing 78 questions. The individual subtests are divided into positive strategies and negative strategies.

### POSITIVE STRATEGIES (POS)

POS 1: Strategy of revaluation and strategy of play down – the strategies in this group can be characterised by revaluation (undervaluation) of the gravity of the stressor and stress in general. This area is presented by the Play Down and Guilt Denial subtests.

POS 2: Strategy of divergence – the behavioural tendencies in this category focus on diverting from the stressful event or shifting to alternative activities (situations). The area is defined by the Divergence and Substitutional Satisfaction.

POS 3: Control strategy – it includes the subtests of Situation Control, Reaction Control and Positive Self-instruction, which contain constructive efforts in coping (control) and competence.

### NEGATIVE STRATEGIES (NEG)

These include tendencies to amplify stress. The lack of coping competence is connected to resignation and escape tendencies. The area is defined by the subtests of Flight tendency, Rumination, Resignation and Self-accusation [14].

The following statistical procedures were used for data processing: descriptive statistical analysis, Snedecor's F-test and Student's t-test.

## RESULTS

The first research question is whether or not there is a difference in the selection of negative coping strategies between teachers at high schools with leaving examinations and teachers at vocational schools without leaving examinations. Table 1 indicates at first sight that teachers at high schools with leaving examinations achieve higher mean values than teachers at vocational schools without leaving examinations. Tables 2 and 3 provide statistical verification.

Table 1. Mean negative values of teachers at high schools with leaving examinations and teachers at vocational schools without leaving examinations

	High schools	Vocational schools
NEG	10.9	9.4

Table 2. Fisher-Snedecor's F-test

Two-tailed F-test for variance		
NEG	Vocational schools	High schools
Mean value	9.425926	10.86667
Variance	9.594302	8.431014
Observance	27	24
Difference	26	23
F	<b>1.137977</b>	
P(F<=f) (1)	0.379344	
F crit (1)	<b>1.988137</b>	

Table 3. Student's t-test for NEG strategy

Two-tailed F-test for variance		
NEG	Vocational schools	High schools
Mean value	9.425926	10.86667
Variance	9.594302	8.431014
Observance	27	24
Common variance	9.048269	
Hypothetical difference in mean values	0	
Difference	49	
t Stat	<b>-1.70728</b>	
P(T<=t) (1)	0.04705	
t crit (1)	1.676551	
P(T<=t) (2)	0.094099	
t crit (2)	<b>2.009575</b>	

Value F = 1.14 is lower than critical value F (crit) = 1.20. Student's t-test with equal variance assumes that value t (stat) = 1.70 is lower than value t crit(2) = 2.01. The level of significance is  $\alpha = 0.05$ . The results indicate that there is no significant difference in the representation of negative strategies (NEG) between teachers at vocational schools without leaving examinations and teachers at high schools with leaving examinations.

The second research question asked if there is a difference in the selection of negative coping strategies in relation to the teachers' gender.

Table 4. Fisher-Snedecor's F-test

	WOMEN	MEN
Mean value	10.54324	8.942857
Variance	10.83363	4.131868
Observance	37	14
Difference	36	13
F	<b>2.62197</b>	
P(F<=f) (1)	0.032693	
F crit (1)	<b>2.35305</b>	

Table 5. Student's t-test for negative strategies

	WOMEN	MEN
Mean value	10.54324	8.942857
Variance	10.83363	4.131868
Observance	37	14
Hypothetical difference in mean values	0	
Difference	38	
t Stat	<b>2.087182</b>	
P(T<=t) (1)	0.021815	
t crit (1)	1.685954	
P(T<=t) (2)	0.043631	
t crit (2)	<b>2.024394</b>	

Table 4 indicates that value  $F = 2.62$  is greater than critical value  $F(\text{crit}) = 2.35$ . Based on this result, the Student's t-test with unequal variance was used (Tab. 5), showing that value  $t(\text{stat}) = 2.09$  is greater than  $t(\text{crit}(2)) = 2.02$ . Therefore, it is possible to state that there is a statistically significant difference between the variables. Men prefer negative coping strategies to a lower extent than women, with statistical significance.

## DISCUSSION

The research of stressful situations in the life of an individual often focuses on monitoring the potential causes of stress. Some of these causes are high expectations of oneself, and the sources of stress are closely related to gender, age and personal traits [15, 16]. Attention is also paid to stress management, or coping strategies. Those are examined in relation to various professions, including teaching [2, 3]. Many studies imply that the style which the individual uses for coping with stress, i.e. coping strategies, depends on gender, age, and as far as teaching is concerned, it also depends on the number of years in the profession, the teacher's personal traits, and physical and mental fatigue. The submitted survey focused on coping strategies used for managing stress by university students in a combined type of study of education-related fields (who already work as teachers). They were teachers at high schools with leaving examinations and teachers at vocational schools without leaving examinations. We wanted to find out whether or not there would be differences in the selection of negative coping strategies between these two groups of teachers, and whether or not there would be gender-related differences. The processing of statistics showed that there is no significant difference between teachers at vocational schools without leaving examinations and teachers at high schools with leaving examinations as far as the representation of coping strategies is concerned. In relation to gender, the survey showed that men tend to prefer negative coping strategies to a lower extent than women, with statistical significance. Some studies also confirm differences in stress coping in relation to gender. Women often choose strategies focused on emotions and social support, while men prefer strategies focused on problem solution [17]. These statements are likely to support the results of surveys in which women show lower self-evaluation than men, assess themselves as less confident and tend to underestimate themselves [18, 19, 20], which might be an important attribute in relation to the selection of coping strategies. It is known that personal traits, such as anxiety, are also important in relation to coping with stress. The studies that have compared the level of anxiety in relation to gender state that women tend to be more anxious than men. Women also admit a higher number of actual anxieties than men [21]. The theory of self-efficacy can also be

applied to anxiety [22], stating that an individual is worried about situations and avoids them when he or she expects that he or she will not be able to cope with them. Such situations give rise to anxiety. It could be then deduced that such attributes might be the reason why women prefer negative coping strategies when dealing with stress. However, this would be a mere speculation within the results of the submitted study. In case of reaffirmation of the results, we believe that this issue is serious enough in relation to the health of the individuals that it deserves further research and a deeper analysis.

## CONCLUSIONS

Stressful situations and their management in the teaching profession is a frequently discussed issue. The presented information is part of broader research; therefore, we would like to point out the limitations of the study. For example, the sample size of the examined group, the selected method of questionnaire, which to some extent provides the participants with a different level of subjective distortion.

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