

## COPING STRATEGIES IN HIGH SCHOOL PUPILS

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**Abstract:** *This paper brings information about discovered structure of coping strategies in adolescents in relation to school environment based on the application of SVF-78 questionnaire. There are mentioned partial results of wider research concerned with mapping of school strain perception in relation to personal characteristics. This research has been performed during spring 2008 at sample of high school pupils at age 15–20. Questionnaire SVF-78 is originally determined as diagnostic tool for adult population and it is linked to situations, where subject is disadvantaged by somebody or by something, is upset or discountenanced. Within our research we check possibility to apply this questionnaire to adolescents at age 15–20, whereas strategies are related to stress situations in the school environment. Resulting data regarding coping strategies are then analyzed in relation to other variables. We mention in our paper relationship to age, gender and type of school.*

**Keywords:** *voping strategy, diagnostics, SVF-78 questionnaire, high school students, school stress situations*

### Theoretical background

In the whole life, an individual gets into situations that present bigger or smaller strain for him and they cause state that is called stress.

When defining the term stress, particular authors approach it differently. (see e.g. Lazarus, 1966, 1971, Kagan, Levi, 1971, H. Selye, 1982, J. E. Mc Grath, 1970, Hodges a Felling, 1970 a Yungman, 1979 etc.).

Generally, this state is understood as an interaction between the individual and his environment, when he is under the requirements and demands that he perceives and evaluates as burdening and that he is not able to cope with some usual ways of performance. (Balcar, 1983, Mlčák, 1999, Lazarus, Folkman, 1984, Karafová, 2007). According to Mareš, (Čáp, Mareš, 2001) except serious traumatic circumstances, also common everyday troubles and inconveniences, which cumulate in the individual's life, are involved among the stress situations.

We agree with the opinions, that the stress itself is possible to judge neither as definitely bad nor good. To overcome stress successfully can even help the individual to personal development. Whether it has positive, encouraging and developing influence, or it takes a destructive effect, does not depend on the character of the stressor itself. It depends on how the individual deals with the stress situation (its reasons, effects and

own ability to cope with it), how he analyses it and faces up to this state (Urbanovská, 2008). The problem starts when the intensity of the stress is inadequate or the individual is not able to bear it and chooses inappropriate coping strategies.

In spite of the variety of the definitions, the term coping means a conscious and purposeful effort, which involves all attempts to overcome stress, the cognitive and behaviour efforts to reduce the influence of the extremely high demands in the strain situations (Lazarus, Folkmann, 1984), or according to Kohn (1996) and Mareš (Čáp, Mareš, 2001), it is a conscious adaptation on the stressor.

The individual conscientiously tries to balance the stress by the ways that are called **coping strategies**.

W. Janke and G. Erdmannová (2003) understand by these coping strategies the psychological processes that come when the stress arises to reduce it or end it up. It is a particular kind of answering the stress that tends to reach the starting psychosomatic level or to avoid a bigger deviation from this starting state. Janke and Erdmann base their own questionnaire on the premise that the ways of dealing with stress are so aware that it is possible to ask for them. They are understood as the “habitual” traits of a personality. That means they are relatively fixed in time and relatively independent on the kind of the strain situation. The authors also presume the independence on the kind of the reaction on the strain itself and finally, some independence on the other personal characteristics.

It is understandable that these premises can cause some polemics, especially the premise about the independence on the kind of the strain situation. The authors themselves say that all the premises are not enough clarified so far in all their implications and significations (Janke, Erdmann, 2003, p. 9).

The premise about the situational independence of the coping strategies is especially polemic. For example Selye (1974, 1983) believes that the organism answers independently on the stimulation, but many researches and many authors prove the particularity and the difference of the ways in dealing with stress depending up the stressor, or the character of the strain situation (e.g. Rösler a Kühn, 1981, or Šolcová, 1992, Koubeková, 2003, Medved'ová, 2001a). Not only the dependence on the stimulation itself is acknowledged but also how it is perceived, interpreted, evaluated by the individual, and what his attributed style, his personal experiences and his motivational level are (Plevová, 2007; Plevová, Urbanovská, 2008).

Frankovský (1998, 2003) acknowledged in his researches a trans-situational (on the situation independent) effect of the individual strategies on one side; on the other side he also acknowledged the influence of the situational context on the usage of the individual strategies.

It results from the researches and discussions about the situational particularity or the commonness of the coping strategies that for its answering it is necessary to specify a research problem. It is showed that the situational constant is more displayed at the imaginative situations, which are recollected on the base of the memories, than at the real situations (see Janke, Erdmannová, 2003, p. 8). Therefore, the authors of the SVF 78 questionnaire suppose that it is necessary to respect also the factor of the situational conditionality during the research of the coping strategies and that it is necessary to specify the situational viewpoint.

For the purpose of the **diagnostics**, many scales (mostly multi dimensional) were produced. Their form is determined by the situational or on the other hand trans-

situational character of the coping strategies. Methodics that discover the coping strategies in the context of some particular described situations represent the situational approach – e.g. ZS 2 (Baumgartner, Adamková, 2003) and the situational form of the COPE questionnaire (Carver, Schreuer, Weintraub, 1989). The questionnaire SVF 78, which we used, is based on the trans-situational approach, in the same way as some other known methodics for the disproportional coping styles measurement – e.g. the disproportional form of the COPE questionnaire (Carver, Schreuer, Weintraub, 1989), SPSS questionnaire (Frankovský, 2003), PCI inventory (Greenglass, Schwarzer, Taubert, 1999).

Especially nowadays, some diagnostic methods try to combine the disproportional and situational approach – e.g. SPNS (r) (Frankovský, Baumgartner, 1997). In any case, both approaches are useful for the detailed analyses of the structure of the strategies. This is very important not only for the diagnostics itself but also for the possibility of the interventional action and prevention.

Different approaches to the classification how to define particular ways of stress overcoming are mirrored in the variety of the diagnostic tools. From the number of the taxonomies, maybe the best known and most frequently used taxonomy is the one of Lazarus and Folkmanová (1984). This taxonomy distinguishes an overcoming focused on a problem (the overcoming of a stress situation) and an overcoming focused on emotions (the overcoming of an emotional accompaniment, of an inner distress). Other authors, e.g. Poon and Lau (1999) describe three types of the overcoming according to the sources that are mobilized: a plan for the solution of a problem and reevaluation of a situation (the mobilization of the inner sources), looking for a social support (the mobilization of the outer sources) and an avoidance of the solution. Endler and Parker (1990) distinguish the overcoming focused on the role, emotions and the avoidance.

The authors of the questionnaire SVF 78 (Janke, Erdmannová, 2003) consider the possibility of distinguishing the coping strategies according to their kinds: operational strategies and intra-psychical strategies; according to their direction: directed on a situation (stressor) and directed on the reaction (stress); according to their effectivity: strategies that decrease the stress (positive) and strategies that increase the stress (negative). In spite of the fact, it is not always possible to say whether to rank the particular strategy among positive or negative ones, this viewpoint is essential for the conception of the questionnaire that was constructed by W. Janke a G. Erdmannová, and that we used in the Czech version in our research.

## **Research**

### **The aims of the research**

To examine the coping strategies is the part of the methodics of the wider research that is focused on the subjective perception of the school strain situations in older adolescents in respect of their personal characteristics.

On the base of the application of the SVF 78 questionnaire, we would like to discover a structure of the coping strategies in adolescents, or the distinctions in using the strategies from the age, school performance and type of school point of view.

We would like to verify the use of the SVF-78 questionnaire in high school pupils. The first Czech version of the questionnaire was made and published in 2003 (Švancara, 2003). According to our available information, the use of this version of the questionnaire is not too extended so far in our country.

## **The presuppositions of the research**

We expected that:

- we demonstrate the possibility to apply the SVF-78 questionnaire in the population of older adolescents
- there will be some statistically significant differences with respect to gender. We expected that there will be more extensive occurrence of strategy of the social reliance in women.
- the reciprocal dependence between the preference for the coping strategies and the factors of age, school performance and the type of school will be demonstrated

## **Methodological approach**

### **Method**

The first Czech version of the SVF-78 questionnaire focused on the coping strategies (authors W. Janke and G. Erdmannová, Czech translation and modification – J. Švancara) was used in the research investigation. (Janke, Erdmannová, 2003). The SVF-78 questionnaire represents a shorten version of the original SVF 120 questionnaire. In this version, the original 13 scales were kept: Undervaluation, Refusing of the blame, Diversion, Substitutional satisfaction, Control of the situation, Control of the reactions, Positive self-instruction, Need for the social support, Avoidance, Tendency to escape, Perseveration, Resignation, Self-blaming. The interpretation according to the secondary rates makes also possible to discover the overall score of the positive strategy (POZ) – it leads to the reduction of the stress, and the negative strategy (NEG) – it leads to the intensification of the stress. Some partial strategies are distinguished within the overall positive strategy: Strategy of the undervaluation and the devaluation of the blame (POZ 1), Strategy of the diversion (POZ 2) and Strategy of the control (POZ 3). The strategy of the need for the social support and the avoidance are not involved into these groups. They are singular and they do not need any individual interpretation.

The questionnaire represents a convenient tool for both the research and the individual diagnostics of the operational strategies. It involves a wide range of the coping strategies, which makes possible to register the variety of the ways that an individual uses when dealing with the stain situations (Švancara, 2003).

We statistically analysed the received data. We used Mann-Whitney U-testu, t-testu, Pearson's coefficient of the correlation and the AR analyses of the diffusion with the comparison of the average rates with the help of Tuckey's HSD method for an unequal number in the groups.

The statistic calculations were done in the IT Center of the Palacky's University in Olomouc.

## The characteristics of the research sample

The research was made in spring 2008 in seven high vocational schools and grammar schools in Moravia region. There were 619 pupils of the first and third classes at the age of 15–20 together. The age average was 16,87. There were 257 boys and 362 girls, 301 pupils of the grammar schools and 318 pupils of the vocational schools of different types.

## The results of the research and their discussion

### The structure of the coping strategies that were used

On the basis of the interpretation and the statistic elaboration (see the chart 1), we discovered that within the whole examined sample the **strategies of the control** (POZ 3) are the most frequently used ones. It is quite positive information because these strategies involve some constructive efforts to overcome/ control and be competent. The students choose the positive self-instruction most often (to attribute a competence to themselves and to encourage themselves) and the control of the reactions (not to allow to be excited, or to face it). The strategy of the control of a situation is less common from the strategies of the control. We assume that this fact corresponds with the interpretation of the inner consequences influence and the real possibilities of the students to influence the strain situations.

The strategies of **the avoidance and the need for the social support** are the next most often applied strategies, in spite of the fact; they are indicated in the SVF 78 methodics as rarely found. The strategy of the avoidance involves an intention and an effort to avoid the strain and to prevent next confrontation with a similar situation. The strategy of the need for the social support indicates a tendency to establish a contact with the others. An individual can gain a support for the problem solution whether in a form of a dialogue or a direct concrete help. Both strategies can mean positive on one side and negative way of overcoming on the other side. It depends on the context of the particular situation (e.g. an inability to influence this situation in no way) and also the general individual profile of the coping strategies.

On the contrary, the **negative strategies** (NEG) appeared as the least common. The strategy of resignation was the least used strategy in this group of the negative strategies. It can be assumed that young people consider this strategy the least convenient and efficient. It is giving up an effort of overcoming the situation with the feelings of helplessness and despair in relation to the strain situation. From the negative strategies, the preservation appeared relatively often as a prolonged reflection and disability to free from the strains in the thoughts.

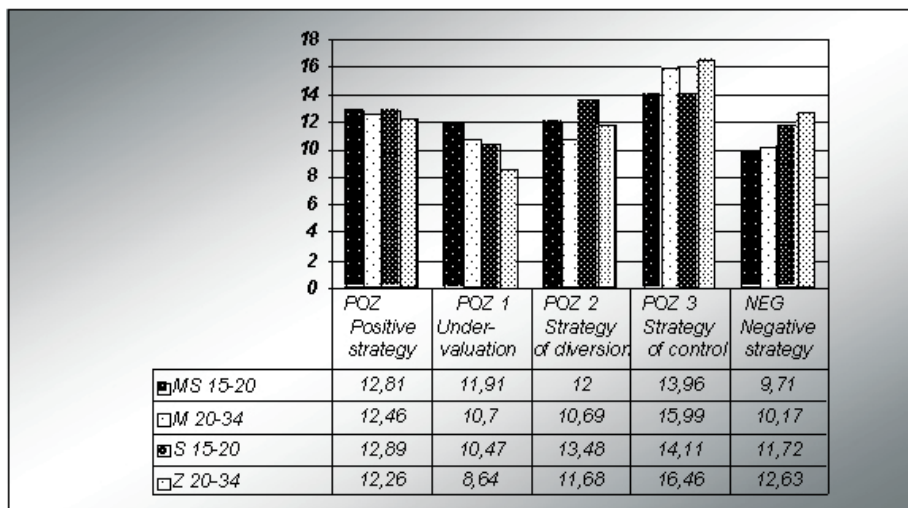
Discovered structure of frequency of coping strategies was compared to the results published within the handbook involved in SVF 78 questionnaire (Janke, Erdmanová, 2003), to be specific to the average score of the respondents at age of 20–34 (SVF 78 questionnaire with respect to the target group of adult population was not standardized for adolescent category.)

Though we realize specifics of particular age categories as well as differences of cultural environment, we would like to mention some facts, which have indicated our

comparison. All compared groups (men and women of all age categories) mostly chose POZ3 strategies, i.e. strategies of the control, on the other hand, both age categories of women used strategies of the undervaluation and devaluation (POZ 1) at least, while men used negative strategy (NEG) at least. Contrary of our group, we have noted more frequent use of strategies of the control , need of the social support but also negative strategies in category of adults (20–34 years old) for both genders.

		The whole sample		Men (N=257)		Women (N=362)	
		Average	Standard deviations	Average	Standard deviations	Average	Standard deviations
	<b>1 Undervaluation</b>	11,22	4,46	12,56	3,96	10,27	4,56
	<b>2 Refusing of the blame</b>	10,91	3,68	11,25	3,78	10,67	3,59
	<b>3 Diversion</b>	13,17	3,67	12,31	3,69	13,77	3,54
	<b>4 Substitutional satisfaction</b>	12,56	4,65	11,68	4,40	13,18	4,73
	<b>5 Control of the situation</b>	13,73	4,25	13,66	4,49	13,78	4,08
	<b>6 control of the reactions</b>	14,17	3,87	14,08	3,95	14,24	3,82
	<b>7 Pos. self-instruction</b>	14,24	4,38	14,15	4,40	14,31	4,37
	<b>8 Need for the social support</b>	13,48	5,44	11,82	4,95	14,66	5,46
	<b>9 Avoidance</b>	14,01	4,74	13,04	4,64	14,69	4,70
	<b>10 Tendency to escape</b>	10,59	4,36	9,32	3,82	11,50	4,49
	<b>11 Persersvation</b>	12,86	5,83	11,40	5,57	13,90	5,79
	<b>12 Resignation</b>	9,33	4,34	8,42	4,03	9,98	4,45
	<b>13 Self-blaming</b>	10,76	5,04	9,72	4,82	11,50	5,07
<b>Positive strategies (POZ)</b>		12,86	2,69	12,81	2,70	12,89	2,69
<b>Strategies of undervaluation and devaluation of the blame (POZ 1)</b>		11,07	3,40	11,91	3,19	10,47	3,41
<b>Strategy of diversion (POZ 2)</b>		12,86	3,54	12,00	3,47	13,48	3,45
<b>Strategy of control (POZ 3)</b>		14,05	3,56	13,96	3,70	14,11	3,46
<b>Negative strategies (NEG)</b>		10,89	4,05	9,71	3,66	11,72	4,11

Average rates and standard deviations of test fields SVF 78 in adolescents (15–20 years old)



Graph 1: Comparison of average score in adolescents with standardized sample

**Key:** MS 15-20 - male students 15-20 years old  
M 20-34 - men 20-34 years old  
S 15-20 - female students 15-20 years old  
Z 20-34 - women 20-34 years old

In terms of both genders there is similar movement in frequency of the same strategies, hence we can consider the age as an important factor. As our research indicates the transition from the adolescence to adult period is characterized by the intensification of strategy of the control, strategy of the need of social support but also some negative strategies. Statistically, significant correlation between strategy of the control and age was also confirmed within the scope of our group and will be analyzed and interpreted in more detail.

Connection between need of the social support and age was indicated by D.P. Valentiner (1994). He points out that seeking the social support grows until the age 13, then rapid decline occurs. Boys often refuse it. It is probable that an individual values the importance of social relations again in later period.

In comparison with our group there is also rise in frequency of some negative strategies – concretely strategy of the perseveration (lack of ability to leave the problem in mind) and self-blaming. On the other hand, in period of early adult age (20–34 years old) frequency of strategy of the resignation, escape and avoidance declines. Regarding strategy of the avoidance an interesting development is indicated. In our experimental group (15–20 years old) it was one of the most frequent strategies, statistically negative correlation with age was proved (growing age brings decline of its frequency). In adult age group (20–34 years) within the scope of standardized sample (Janke, Erdmannová, 2003) frequency of this strategy is the lowest and in older age categories it raises again. New (preferably long-term research) could verify whether tendency of this concave development is really evident.

Structure of coping strategies, which we have discovered, corresponds to the results of other researches to some extent. For instance, Frankovský has found



out that in adult age group (average age – 22,7 years old), when taking into consideration submitted coping strategies, strategy of the individual solution was the most frequently used, strategy of seeking help and support was the second one and strategy of the avoidance was the third one. If we admit certain similarity between strategy of the control and individual solution, then the findings of preference of active and constructive strategies seems to be in accord with the results of our research. Thus, a difference appears in our findings relating to the preference of strategies of the avoidance to need of the social support. When we take into consideration that the research of Frankovský (2003) and standardized sample (Janke, Erdmannová, 2003) feature preference of strategy of the social support to the avoidance, we suppose that this difference can be explained by the influence of age and less frequent seeking (or even refusing) the social support in period of adolescence.

## **Gender differences**

Within our experimental group we have found out considerable differences in preferences of particular ways of coping. Besides positive strategies of the control, which are preferred by both gender groups with no difference, all other strategies denoted statistically significant differences on the level of significance 0,05 (see chart 2). From the chart it is obvious that men more often prefer strategies of the undervaluation and devaluation of blame (POZ 1), i.e. they decrease influence of stress, feeling stress or stress reaction and refuse to be responsible for this strain. On the other hand, women more often choose strategies of the diversion including the substitutional satisfaction (POZ2), social support, avoidance but also all negative strategies (NEG).

Influence of the gender on preference of coping strategies is generally proved by research. Our conclusion about the preference of strategies of the social support in female group corresponds with the results of many other researches (Karařová, 2007; Medved'ová, 2001a, 2004; Koubeková, 2000; Janke, Erdmanová, 2003). Also the other gender differences discovered by our research (POZ 2, NEG, avoidance) are in accord with the results of standardized sample (Janke, Erdmannová, 2003). Thus, it is interesting that other researches prove that girls use rather active (constructive) coping strategies whereas boys more often use strategies of the avoidance (they avoid a problem, tend to be in distance) (see e.g. Medved'ová, 2003; Willis et al, 2001; Karařová, 2007).



Mann-Whitney U test (students Variable: gender Marked tests are significant on the level of significance $p < 0,05000$ )									
Variable	Sum of Rank Z	Sum of Rank M	U	Z	Level p	Z adjstd.	Level p	N Valid Z	N Valid M
<b>SVF 1</b>	97598,0	94292,00	31895,00	-6,66931	0,000000	-6,68748	0,000000	362	257
<b>SVF 2</b>	107424,5	84465,50	41721,50	-2,18730	0,028722	-2,19783	0,027962	362	257
<b>SVF 3</b>	123124,0	68766,00	35613,00	4,97347	0,000001	4,99295	0,000001	362	257
<b>SVF 4</b>	120797,5	71092,50	37939,50	3,91232	0,000091	3,92275	0,000088	362	257
<b>SVF 5</b>	113199,5	78690,50	45537,50	0,44676	0,655046	0,44806	0,654112	362	257
<b>SVF 6</b>	113488,0	78402,00	45249,00	0,57835	0,563026	0,58048	0,561593	362	257
<b>SVF 7</b>	113210,0	78680,00	45527,00	0,45155	0,651591	0,45291	0,650611	362	257
<b>SVF 8</b>	127320,5	64569,50	31416,50	6,88756	0,000000	6,89868	0,000000	362	257
<b>SVF 9</b>	121467,5	70422,50	37269,50	4,21792	0,000025	4,22762	0,000024	362	257
<b>SVF 10</b>	125648,0	66242,00	33089,00	6,12471	0,000000	6,14134	0,000000	362	257
<b>SVF 11</b>	123476,0	68414,00	35261,00	5,13403	0,000000	5,14068	0,000000	362	257
<b>SVF 12</b>	121488,5	70401,50	37248,50	4,22750	0,000024	4,23830	0,000023	362	257
<b>SVF 13</b>	121863,0	70027,00	36874,00	4,39831	0,000011	4,40695	0,000010	362	257
<b>POZ</b>	112153,0	79737,00	46450,00	-0,03056	0,975621	-0,03057	0,975615	362	257
<b>POZ1</b>	99914,5	91975,50	34211,50	-5,61272	0,000000	-5,61974	0,000000	362	257
<b>POZ2</b>	123576,0	68314,00	35161,00	5,17964	0,000000	5,18512	0,000000	362	257
<b>POZ3</b>	112899,0	78991,00	45838,00	0,30970	0,756788	0,30987	0,756657	362	257
<b>NEG</b>	125212,0	66678,00	33525,00	5,92584	0,000000	5,92731	0,000000	362	257

Chart 2: Gender differences in preference of coping strategies

Explanation: SVF 1 - Undervaluation, SVF 2 - refusing of blame, SVF3 - diversion, SVF 4 - substitutional satisfaction, SVF 5 - control of situation, SVF 6 - control of reactions, SVF 7 - positive self-instruction, SVF 8 - need of social support, SVF 9 - avoidance, SVF 10 - tendency to escape, SVF 11 - perseveration, SVF 12 - resignation, SVF 13 - self-blaming, POZ - positive strategy, POZ 1 - strategy of undervaluation and devaluation of blame, POZ 2 - strategy of diversion, POZ 3 - strategy of control, NEG - negative strategy

We suppose that the differences between our results and the other researches can be caused by the structure of experimental group and different method. Seeing that our results correspond with the research realized by same method (Janke, Erdmannová, 2003) and that particularity of situation determines preference of the strategies, which is proved by researches, we can explain our results by general target of SVF 78 questionnaire.

## Influence of variables of age and school results

Relation of our results with variables of age and success in Math and Czech language was found out on the basis of calculation with Pearson coefficient of correlation. The correlations were found out in the whole sample and in a group of men. In terms of woman group, no correlation was confirmed (see chart 5).

Variable of age positively correlates with the control of situation strategies. In context of this fact, negative correlation of age and frequency of the avoidance strategies was obviously confirmed as well. It means that growing age leads to reduction of coping based on the avoidance. Older people do not tend to avoid a situation so much and more often they attempt to gain control over the situation.

CORRELATION Variable	STUDENTS IN TOTAL			MALE STUDENTS		
	AGE	CZECH LAN.	MATH	AGE	CZECH LAN.	MATH
Undervaluation	-,0379	,0703	,0238	-,0044	,0103	-,0730
	p=,349	p=,091	p=,566	p=,944	p=,873	p=,255
Refusing of blame	,0244	-,0253	-,0064	,0365	-,0727	-,0753
	p=,547	p=,543	p=,877	p=,562	p=,258	p=,240
Diversion	-,0469	-,0798	-,0677	-,0579	-,0674	-,1118
	p=,247	p=,055	p=,102	p=,357	p=,294	p=,081
Substitutional satisfaction	,0551	,0122	,0039	,0717	,0619	-,0060
	p=,173	p=,769	p=,925	p=,254	p=,336	p=,925
Control of situation	,0820	-,0647	-,0045	,1233	-,1579	-,0590
	p=,043	p=,119	p=,914	p=,049	p=,014	p=,358
Control of reactions	-,0172	-,1285	-,0725	,0388	-,2367	-,1490
	p=,670	p=,002	p=,080	p=,537	p=,000	p=,020
Positive self-instruction	,0039	-,0910	,0079	,0635	-,1883	-,0685
	p=,923	p=,028	p=,849	p=,313	p=,003	p=,285
Need of social support	,0695	-,1232	-,0413	,0387	-,1569	-,0335
	p=,086	p=,003	p=,320	p=,539	0	p=,602
avoidance	-,0888	-,0770	-,0446	-,1062	-,1050	-,0576
	p=,028	p=,064	p=,282	p=,090	p=,102	p=,369
Tendency to escape	-,0236	-,0200	,0069	-,0087	-,0090	-,0116
	p=,560	p=,631	p=,867	p=,890	p=,888	p=,857
Perseveration	,0613	-,1139	-,0720	,0961	-,1074	-,0657
	p=,130	p=,006	p=,082	p=,126	p=,094	p=,306
Resignation	-,0742	,0550	,0245	-,1038	,0806	,0788
	p=,067	p=,186	p=,555	p=,098	p=,209	p=,219
Self-blaming	,0125	,0089	,0097	-,0129	-,0449	-,0443
	p=,758	p=,831	p=,815	p=,838	p=,485	p=,490
POZ	,0160	-,0631	-,0220	,0637	-,1415	-,1142
	p=,692	p=,129	p=,597	p=,311	p=,027	p=,074
POZ1	-,0117	,0325	,0122	,0188	-,0366	-,0899
	p=,772	p=,434	p=,769	p=,765	p=,570	p=,161
POZ2	,0118	-,0336	-,0327	,0143	,0031	-,0636
	p=,771	p=,420	p=,431	p=,820	p=,961	p=,322
POZ3	,0280	-,1097	-,0249	,0889	-,2222	-,1039
	p=,489	p=,008	p=,549	p=,157	0	p=,105
NEG	-,0003	-,0286	-,0143	,0017	-,0355	-,0208
	p=,994	p=,491	p=,730	p=,979	p=,581	p=,746

Chart 5: Correlation of preference of coping strategies with variables of age and results

The correlation with variable of age, which we have discovered, is in accord with an assumption that learning influences coping skills. With growing experience, knowledge and competences an individual is able to analyze given situation in more detail and to cope with it actively. Hence, he or she does not need to avoid the situation so often. It is assumed (and experimental verification proves it) that our ability to face stress is determined by our control over the situation and ability to influence important elements of our environment (Kebza, 2005).

**School results in Czech language** negatively correlated with strategies of the control, need of the social support and perseverance. These correlations are valid for the whole sample and especially for men group.

Better mark was assigned by the students with more frequent use of **strategy of the control** (POZ3), which is considered as a constructive way of coping stress. It predicates of more frequently applied strategies of the control, thus bigger effort not to be put out of countenance, not to get excited or eventually to be able to face this excitement. Then, it also predicates of effort to gain control over the situation, hence to analyze it, to plan how to improve this state and to encounter the situation actively. There was also evident tendency to support one-self, to increase self-confidence. All these ways are especially purposeful in the situation where gaining some achievement is important. The confirmation of the correlation with the school results seem to be well-founded.

The students with better results sought **social support** more often. Positive influence of social support on the results can be explained by its help to analyze the situation, to search adequate solution and ways of coping, by the ability to confront opinions or to provide important information and so on.

Findings of negative correlation of the results in Czech language and strategy of the perseverance, which is labelled as negative strategy, is interesting. This fact evidences that the students who could not get rid of thoughts about stress situation and considered it achieved better results in Czech language. The interpretation can be growing influence of longer thinking on the motivation of achievement or depth of the analysis of given situation. However, these relations would have to be verified. In any case, the discovered fact point out that it is not possible to definitely consider strategy of the perseverance as negative. From certain point of view and in certain situations it can lead conscious protraction of stressful situation and thus increasing stress, but on the other hand, its positive effect can appear in some case. It proves the assumption of the authors of SVF 78 questionnaire, that particular strategies cannot be definitely labelled as negative or positive – it is necessary to asses them within the context of given situation and personality of each individual exposed to stress (Janke, Erdmannová, 2003).

Negative correlation was confirmed only between school results in Math and strategies of reaction control, moreover only in men group. Probably, the results in Math are not connected to preferred coping strategies to such an extent as the results in Czech language. However, we can assume that an ability to keep level head is effective especially for solving mathematic problems. It seems that in terms of particular coping strategies, just the effort to regulate emotions can significantly influence the school results in Math.

## **Differences with view to type of school**

Differences in preference of coping strategies with a view to the type of visited school were not as evident as gender differences (see chart 3). Statistically significant differences were confirmed only in three strategies within the whole sample and in woman group. Regarding men group, an influence of this variable was not proved. As the chart implies, students of vocational schools more often choose strategies of undervaluation in comparison with students of grammar schools, which proves a tendency to undervalue own reactions when comparing them with the other reactions or to judge them more posi-

tively. On the contrary, they use strategies of the escape and perseverance less often. It means that in comparison with grammar school students, vocational school students have slighter tendency to avoid stress situation but they do not think about it so long.

Interpretation can be given by the specifics of specialized and general orientation of the schools, differences in coping or influencing stress situation at various types of secondary schools. On the other hand, we can consider specifics of personal features of particular individuals who choose general or specialized education. Personal features with view to the type of visited school or some connection between SVF results and personal characteristics or extent of conscious stress were not analyzed in this stage of the research.

Analysis of dispersion following by Tuckey method HSD also showed partial differences between particular schools. Mapping, interpretation and analysis of these differences is beneficial especially for concrete schools participating in the research, in connection to examined students and within the context of school climate. All schools will be informed about results of the research at large. However, at this moment we are not going to deal with detailed analysis since we do not considered it as purposeful.

When looking at structure of experimental group it is evident that some significant differences were caused by gender structure in student groups at particular schools. In no case the differences between particular schools were connected with any strategy of the control (POZ 3). Thus, we can say that tendency to control and regulate situation and own reactions is not influenced by gender or visited school in our group.

Variable	Mann-Whitney U test (students Variable: type of school Marked tests are significant on the level of significance $p < 0,05000$ )									
	Sum of Rank G	Sum of Rank other	U	Z	Level p	Z adjstd.	Level p	N Valid G	N Valid other	
<b>SVF 1</b>	86365,50	105524,5	40914,50	-3,12276	0,001792	-3,13127	0,001741	301	318	
<b>SVF 2</b>	90947,00	100943,0	45496,00	-1,06258	0,287973	-1,06770	0,285658	301	318	
<b>SVF 3</b>	95164,00	96726,0	46005,00	0,83370	0,404453	0,83696	0,402615	301	318	
<b>SVF 4</b>	91138,50	100751,5	45687,50	-0,97647	0,328834	-0,97907	0,327546	301	318	
<b>SVF 5</b>	95232,50	96657,5	45936,50	0,86450	0,387315	0,86700	0,385942	301	318	
<b>SVF 6</b>	93534,00	98356,0	47635,00	0,10073	0,919767	0,10110	0,919474	301	318	
<b>SVF 7</b>	92473,50	99416,5	47022,50	-0,37615	0,706804	-0,37729	0,705962	301	318	
<b>SVF 8</b>	96894,00	94996,0	44275,00	1,61163	0,107043	1,61423	0,106477	301	318	
<b>SVF 9</b>	95074,50	96815,5	46094,50	0,79345	0,427516	0,79528	0,426454	301	318	
<b>SVF 10</b>	98253,00	93637,0	42916,00	2,22274	0,026234	2,22878	0,025830	301	318	
<b>SVF 11</b>	99317,50	92572,5	41851,50	2,70142	0,006905	2,70492	0,006832	301	318	
<b>SVF 12</b>	92103,00	99787,0	46652,00	-0,54276	0,587298	-0,54414	0,586343	301	318	
<b>SVF 13</b>	93681,50	98208,5	47487,50	0,16705	0,867328	0,16738	0,867070	301	318	
<b>POZ</b>	91406,00	100484,0	45955,00	-0,85618	0,391899	-0,85637	0,391793	301	318	
<b>POZ1</b>	87007,00	104883,0	41556,00	-2,83430	0,004593	-2,83784	0,004542	301	318	
<b>POZ2</b>	92857,00	99033,0	47406,00	-0,20370	0,838586	-0,20392	0,838418	301	318	
<b>POZ3</b>	93900,50	97989,5	47268,50	0,26553	0,790599	0,26568	0,790485	301	318	
<b>NEG</b>	96525,00	95365,0	44644,00	1,44570	0,148262	1,44606	0,148161	301	318	

Chart 3: Differences in preference of coping strategies from view of type of the school: grammar school and vocational schools (the whole sample)

Explanation: SVF 1 - Undervaluation, SVF 2 - refusing of blame, SVF3 - diversion, SVF 4 - substitutional satisfaction, SVF 5 - control of situation, SVF 6 - control of reactions, SVF 7 - positive self-instruction, SVF 8 - need of social support, SVF 9 - avoidance, SVF 10 - tendency to escape, SVF 11 - perseverance, SVF 12 - resignation, SVF 13 - self-blaming, POZ - positive strategy, POZ 1 - strategy of undervaluation and devaluation of blame, POZ 2 - strategy of diversion, POZ 3 - strategy of control, NEG - negative strategy, G - grammar schools

## Conclusions

Within the scope of our research we have managed to verify an utility of SVF 78 questionnaire concentrating on stress coping strategies for population of older adolescents. Structure of coping strategies, which we have discovered, corresponds with the results of standardized sample to great extent.

On the basis of the first analysis of results, we have confirmed significant differences in coping strategies with view to gender and some differences with view to the type of secondary school. Besides positive strategies of the control, which both gender groups prefer with no difference, we have confirmed statistically significant differences in all other strategies. Men more often use strategies of the undervaluation and devaluations of the blame whereas women more often choose strategies of the diversion, social support, avoidance but also all negative strategies. Vocational schools students choose strategies of the undervaluation more often than grammar school students but on the other hand they choose less frequently strategies of the avoidance and perseveration.

We have managed to find out some correlations between applied coping strategies and variables of age and school results in Czech language and Math. Growing age seems to lead to more frequent use of constructive strategies of the control of situation and less frequent coping by the avoidance. We have also confirmed negative correlation between school results and strategy of the control, need of social support and perseveration. These correlations were not confirmed for women group separately.

For broader interpretation of the results we will analyze connections between conscious school stress and some personal characteristics which represent significant factors of ways of coping.

## STRATEGIE ZVLÁDÁNÍ STRESU U STŘEDOŠKOLSKÉ MLÁDEŽE

**Abstrakt:** Příspěvek přináší informace o zjištěné struktuře strategií zvládání stresu adolescenty ve vztahu ke školnímu prostředí na základě aplikace dotazníku SVF 78. Jedná se o dílčí výsledky širšího výzkumného šetření, které je zaměřeno na mapování vnímání školní zátěže ve vztahu k osobnostním charakteristikám a bylo realizováno v roce 2008 na vzorku středoškolské mládeže. Původně je dotazník SVF 78 určen jako diagnostický nástroj pro dospělou populaci a vztahuje se obecně k situacím, v nichž je jedinec něčím nebo někým poškozen, vnitřně rozrušen nebo vyveden z míry. V rámci našeho výzkumu ověřujeme možnost aplikace dotazníku u středoškolské mládeže a strategie jsou vztahovány k stresovým situacím ve školním prostředí. Zjištěné údaje o uplatňovaných strategiích zvládání stresu jsou pak analyzovány ve vztahu k dalším proměnným. V příspěvku zmiňujeme vztah k věku, pohlaví a typu navštěvované střední školy.

**Klíčová slova:** strategie zvládání stresu, diagnostika, dotazník SVF-78, středoškolská populace (mládež), školní stresové situace