

Selected Personality Traits and Stress Management in Current University Students of Education, Physical Culture and Natural Science

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Abstract

Recently there has been a growing interest of the professional community in the issue of health in university students as they represent the national capital and future investment of every society. University students thus constitute a specific population group. The factors influencing students' health are strictly specific and are considered to be related to academic study. The main stressogenic factors include academic overload, constant pressure to be successful and competition among classmates. Generally, the population between twenty and thirty years of age represents a group with the lowest morbidity and mortality rate. However, some results of research studies aimed at risk factors influencing university population indicate that the health condition in university students is generally worse compared with non-student population of the same age. Similarly, there is a higher prevalence of psychological distress in university students in comparison with working non-student population of the same age. In the prevention of negative stress and its negative consequences an important role is played by adequate coping strategies that are integral part of stress management. This issue is addressed by the present study of current university students. Our research study involved a total of 522 students of Palacký University, Olomouc, namely from the Faculty of Education, Faculty of Physical Culture and the Faculty of Science. The study indicates

some preferences in coping with stress situations in current university students based on gender differences and study specialization. The presented findings have practical applications in approaching the defined target group in the area of university educational and psychological counselling.

Key words: coping, men, women, adultus, health, counselling.

Introduction

In principle, stress situations are not undesirable. On the contrary, they mobilise the organism, stimulate an individual to learn and search for new ways, elicit higher performance, but under certain circumstances (in case of inadequate escalation of demands with respect to the possibilities of an individual) become a source of undesirable conditions and reactions. Some authors distinguish load from stress since these two terms differ in meaning. For these authors, load presents a level which the organism is capable of withstanding, and they consider it a stimulating factor without which the organism would stagnate (Kebza, 2005). From a psychological point of view, load situations include, apart from stress, conflict and frustration from a quality perspective, while stress is a common denominator of loads in terms quantity response (Hošek, 2001). According to this author, demanding life situations can be divided into categories such as inadequate tasks (requirements higher than the capacity of an individual), problem situations (an individual faces a problem and has limited abilities and skills to solve it), conflicts (the essence is a dispute), frustration (blocked fulfilment of desired goals), deprivation (unmet needs in the long run).

Recently there has been a growing interest of the professional community in the issue of health in university students as they represent the national capital and future investment of every society. University students thus constitute a specific population group. Generally, the population between twenty and thirty years of age represents a group with the lowest morbidity and mortality rate. However, some results of research studies aimed at risk factors influencing university population indicate that the health condition in university students is generally worse compared with non-student population of the same age. Similarly, there is a higher prevalence of psychological distress in university students in comparison with working non-student population of the same age (Roberts, Golding, Towell, & Weinreb, 1999; Adlaf, Gliksman, Demers, & Newton-Taylor, 2001; Dyrbye, Thomas, & Shanafelt, 2006). Therefore we focus on an important part of the stress management that is the preference of optimal coping strategies.

The factors influencing students' health are strictly specific and are considered to be related to academic study. The main stressogenic factors include academic overload, constant pressure to be successful and competition among classmates. In

some countries these factors include financial limits and concerns about the future (Lu, 1994; Omigbodun et al., 2006; Lee et al., 2007). Undesirable stress influences not only students' health but also their academic achievement (Hamaideh, 2011). At the same time, academic distress, load situations and coping preferences are affected by gender, selected study specializations, overall duration of academic study or social and adaptation influences.

Particularly the relationship between intersexual differences and various coping strategies leads to relatively ambiguous conclusions (Hamilton, 1988; Frydenberg & Lewis, 1993; Stern et al., 1993; Renk & Creasey, 2003). Some comparative studies consistently report a higher frequency of psychological distress in women than in men (Hankin & Abramson, 1999; Cyranowski et al., 2000; Denon, Prus, & Walter, 2004). In terms of dealing with load situations, for example Janke and Erdmann (2003) claim that men use undervaluation and rejection of guilt more frequently, whereas women tend to use the strategy of need of social support, escape tendency, perseveration, resignation and self-accusation, substitute satisfaction and avoidance. As far as the relationship between age and preferences of coping strategies is concerned, the authors revealed that younger individuals tend to use substitute satisfaction, need of social support, resignation and self-accusation.

Another important aspect could be the cognitive aspect and overall perception of a current load situation. This can result from a number of divergent variables in terms of perceiving load situations with consequent differences in the preference of various coping strategies. Therefore, in current university students there can be significant coping differences with respect to study specializations.

The main objective of the present study is to extend the knowledge on selected personality traits and strategies of coping with load situations in a specific group of university students with respect to gender differences and the diversity of their study specializations. The purpose of the findings is a transfer to practical applications in approaching university students, particularly in the area of university educational and psychological counselling.

Material and methods

Subjects

The study involved a total of 522 students from three Faculties of Palacký University. Specifically the students were from the Faculty of Physical Culture, Faculty of Education and Faculty of Science (Table 1). The survey and data collection was conducted according to a predetermined time plan in 2010 and 2011.

In the context of our research a present university student was any individual properly enrolled as a full-time student whose age was adequate to the respective university

grade. In terms of age, the study involved younger adults aged 19 to 26. Most students were in the categories of 20, 21 and 22 years of age ($n = 420$). With respect to age, these age categories represent in total more than 80 % of the whole sample.

Table 1

Characteristics of study participants ($n = 522$)

	Number of participants	Men / Women
Faculty of Education	218	11 / 207
Faculty of Physical Culture	118	50 / 68
Faculty of Science	186	38 / 116
TOTAL	522	131 / 391

Ethical aspects

The study was conducted in compliance with ethical aspects. The survey involved adult individuals on a voluntary basis. Each participant was informed of a possibility to terminate participation at any stage without giving any reason and without any sanction. All data was processed anonymously, it was impossible to identify specific probands. The survey participants consented to anonymous data processing and use for scientific purposes.

Psychological assessment

In the study, we used standardized psychodiagnostic methods. To assess personality traits we used a five factor personality inventory (Big Five) – NEO (Hřebíčková & Urbánek, 2001) and the EPQ-R Questionnaire (Senka, Kováč, & Matejčík, 1993). Coping strategies were assessed using the Stress coping strategy questionnaire – SVF 78 (Janke & Erdmann, 2003).

Statistical analysis

For each variable, basic statistical quantities were calculated and distribution normality verified. Result processing was made using parametric as well as non-parametric statistical methods. Normality was assessed using the Shapiro-Wilk normality test. To assess the differences and rate of significance between independent samples, the Mann-Whitney U test was used. Multiple value comparison was made using the Kruskal-Wallis test and correlation dependences were assessed by Spearman's correlation. The level of statistical significance was tested at $p \leq 0.05$; $p \leq 0.01$. Effect of size was assessed using Cohen's d (Cohen, 1988; Thomas, Nelson & Silverman, 2011). Statistical data processing was carried out using the Statistica programme, version 10.0 (Statistica, Tulsa, USA).

Results

Monitored personality characteristics (psychoticism and traits of "Big five") and coping strategies are presented in relation to the whole sample of university students (Table 2). Overall, we can state that our sample of university students in basic personality characteristics is not significantly different from the average normative values.

Table 2

Selected personality traits and coping in university students

	Mean \pm SD (n = 522)	Range
Neuroticism	23.1 \pm 4.89	7–39
Psychoticism	3.0 \pm 1.57	0–10
Extraversion	23.2 \pm 3.72	14–38
Openness	24.4 \pm 3.51	12–35
Agreeableness	26.3 \pm 4.17	15–39
Conscientiousness	27.6 \pm 3.68	17–38
POZ	13.5 \pm 2.17	5–20
NEG	12.2 \pm 3.56	2–24

Legend: SD – standard deviation; POZ – total positive coping; NEG – total negative coping

In terms of mutual correlations in the whole sample of university students we revealed a significant positive correlation between the level of extraversion and using positive strategies. At the same time, with an increasing level of extraversion the preference of using negative coping strategies significantly decreases. There is also a significant positive correlation between an increased level of neuroticism and a frequent use of negative stress coping strategies ($p \leq 0.05$) (Table 3).

Table 3

Personality traits and coping – Spearman's correlation

	POZ	NEG	POZ 1	POZ 2	POZ 3
Neuroticism	-0.0937*	0.5021*	-0.1273*	0.0748	-0.1121*
Psychoticism	0.0504	-0.2012*	0.2268*	-0.0313	-0.0652
Extroversion	0.2675*	-0.0357	0.1721*	0.2095*	0.1692*
Openness	0.2370*	0.0181	0.1573*	0.1593*	0.1424*
Agreeableness	0.1413*	0.1701*	0.0990*	0.1085*	0.0830
Conscientiousness	0.2013*	0.1633*	0.0153	0.1280*	0.2598*

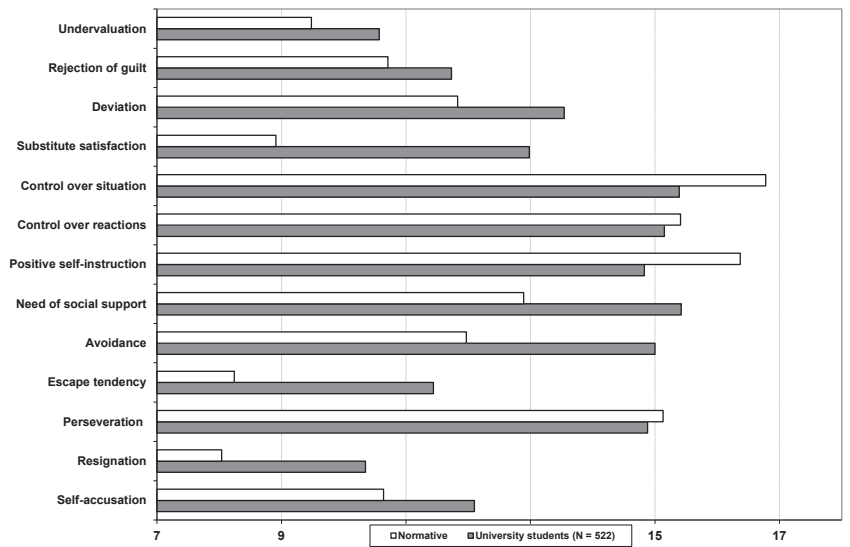
Legend: POZ – total positive coping; NEG – total negative coping; POZ 1 – positive coping 1; POZ 2 – positive coping 2; POZ 3 – positive coping 3; * – statistical significance $p \leq 0.05$.

Interestingly, the analysis of individual stress coping strategies indicated specific differences in the preference of individual coping strategies between the sample of university students and normative values (Figure 1). University students significantly prefer positive strategies compared with normative values. Specifically, these are positive strategies of type I and type II. These are especially strategies such as undervaluation, rejection of guilt, deviation and substitute satisfaction. The most significant difference between the sample of university students and average normative values was identified in the values of substitute satisfaction. On the contrary, positive strategies of type III are all below average normative values. These include the following strategies: control over situation, control over reactions and positive self-instruction.

The category of 'singular' strategies includes particularly the strategy of need of social support and avoidance. The strategy of need of social support appears significantly higher in the sample of university students compared with average normative values. There is also a relatively significant difference in an increased preference of avoidance in students compared with normative values.

Similarly, negative strategies are used much more frequently compared with normative values. Negative stress coping strategies are represented by four strategies. In the sample of university students we revealed that they prefer escape tendencies much more compared with average normative values. Also, the values of increased resignation and self-accusation are higher in the monitored students. The negative coping strategy of perseverance is almost identical with normative values in university students.

Figure 1
Comparison of average gross score values of individual coping strategies in current university students with normative values



In terms of overall strategies and gender differences, the study revealed a significantly higher use of positive coping strategies in the sample of men at $p \leq 0.05$. On the contrary, in the sample of women a significantly higher degree of preference of negative stress coping strategies at a level of statistical significance of $p \leq 0.000$ (Table 4) was observed.

Table 4
Coping and gender

Coping	Mean \pm SD (Man = 131)	Range	Mean \pm SD (Woman = 391)	Range	<i>p</i>	<i>d</i>
POZ	13.90 \pm 2.25	4.9–19.7	13.35 \pm 2.13	4.9–19.6	0.05	0.25
NEG	10.89 \pm 3.95	2.0–23.0	12.63 \pm 3.31	3.3–23.5	0.001	0.50
POZ 1	12.55 \pm 3.55	1.0–24.0	10.70 \pm 3.07	1.0–23.5	0.001	0.58
POZ 2	12.37 \pm 3.56	1.5–21.0	13.57 \pm 3.19	2.0–22.5	0.001	0.36
POZ 3	15.58 \pm 2.76	9.0–23.3	14.98 \pm 2.63	3.3–24.0	0.044	0.23

Legend: POZ – total positive coping; NEG – total negative coping; POZ 1 – positive coping 1; POZ 2 – positive coping 2; POZ 3 – positive coping 3; P – Faculty of Physical Culture; E – Faculty of Education; N – Faculty of Science; SD – standard deviation; H – (Kruskal-Wallis) test score; Comp. – comparison; *p* – statistical significance; * – $p \leq 0.05$; ** – $p \leq 0.01$; *** – $p \leq 0.001$; *d* – effect size; NS – no significance

Overall positive strategies are thus significantly higher in men than in women, this also applies to positive strategies POZ1 and POZ3. Significantly higher values of positive strategies grouped under POZ 2 were identified in the sample of women. This applies particularly to a higher preference of strategies such as deviation and substitute satisfaction.

In terms of individual strategies, the study revealed that men significantly prefer the strategy of undervaluation compared with the sample of women. At the same time, men reported a higher degree of rejection of guilt. Both these strategies fall within the POZ 1 subtest.

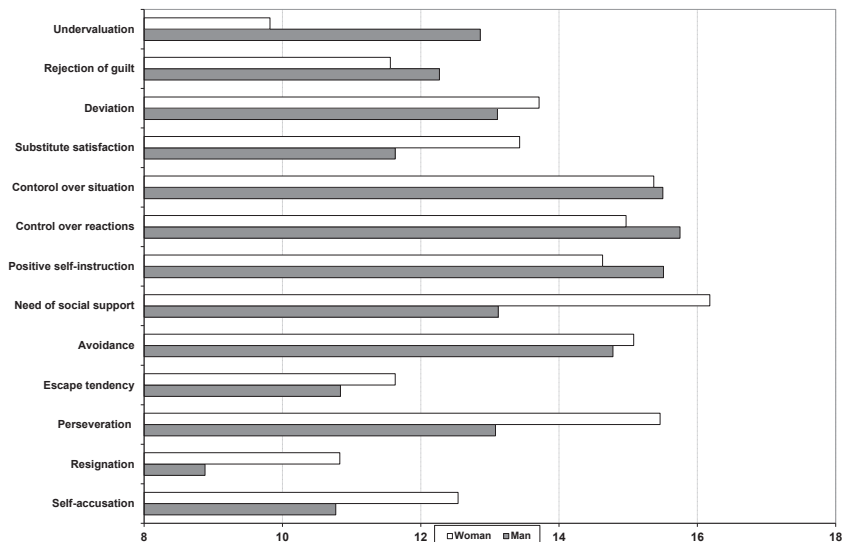
The POZ 3 subtest includes the strategies of control over situation, reactions and positive self-instruction. The need of control over situation is almost identical in men and women, but men reported a higher value of control over reactions. At the same time, men reported a higher degree of the coping strategy of positive self-instruction.

The biggest difference in comparing the preferences of individual stress coping strategies between the sample of men and the sample of women was revealed in the strategy of need of social support. This 'singular' coping strategy is significantly higher in the sample of women compared with men. Similarly, another unclassified strategy of avoidance is higher in women.

An analysis of negative stress coping strategies (NEG) revealed that overall negative strategies are significantly higher in women. At the same time, all individual negative coping strategies (escape tendency, perseveration, resignation, self-accusation) are higher in women than in men. There are significant differences especially in perseveration, resignation and self-accusation (Figure 2).

Figure 2

Gender-based comparison of average gross score values of individual coping strategies in current university students



An inter-faculty comparison revealed that positive strategies are most frequently used by university students of sport, followed by students of science and education. As far as negative coping strategies are concerned, the highest values were reported by students of education and science. The lowest degree of preference of negative stress coping strategies was found in students of sport.

A comparison of using coping strategies between university students of sport and a sample of students from the Faculty of Education and Faculty of Science revealed that university students of sport use significantly more positive stress coping strategies and at the same time significantly less negative coping strategies compared with university students of education and science (Table 5).

Table 5

Coping in university students of education, physical culture, and science

	Mean \pm SD	Range	H	Comp.	<i>p</i>	<i>d</i>
POZ						
P	13.9 \pm 2.22	4.9–19.7	9.474180 <i>p</i> = 0.0088	P–E	0.011*	0.33
E	13.2 \pm 2.08	5.7–18.4		P–N	NS	
N	13.6 \pm 2.20	4.9–19.6		E–N	NS	
NEG						
P	11.1 \pm 3.67	2.3–23.5	13.96892 <i>p</i> = 0.0009	P–E	0.001***	0.43
E	12.6 \pm 3.35	4.0–23.0		P–N	0.009**	0.47
N	12.4 \pm 3.60	2.0–21.3		E–N	NS	
POZ 1						
P	11.9 \pm 3.48	1.0–24.0	9.943241 <i>p</i> = 0.0069	P–E	0.009**	0.40
E	10.6 \pm 3.15	1.5–19.0		P–N	NS	
N	11.4 \pm 3.22	1.0–20.5		E–N	NS	
POZ 2						
P	13.5 \pm 3.11	4.5–20.0	0.2958864 <i>p</i> = 0.8625	P–E	NS	
E	13.3 \pm 3.17	2.0–22.5		P–N	NS	
N	13.2 \pm 3.63	1.5–21.0		E–N	NS	
POZ 3						
P	15.5 \pm 2.81	3.3–23.3	7.861704 <i>p</i> = 0.0196	P–E	0.030*	0.26
E	14.8 \pm 2.59	7.3–22.7		P–N	NS	
N	15.3 \pm 2.65	7.0–24.0		E–N	NS	

Legend: POZ – total positive coping; NEG – total negative coping; POZ 1 – positive coping 1; POZ 2 – positive coping 2; POZ 3 – positive coping 3; P – Faculty of Physical Culture; E – Faculty of Education; N – Faculty of Science; SD – standard deviation; H – (Kruskal-Wallis) test score; Comp. – comparison; *p* – statistical significance; * – $p \leq 0.05$; ** – $p \leq 0.01$; *** – $p \leq 0.001$; *d* – effect size; NS – not significant.

An analysis of the results of individual stress coping strategies with respect to a selected study specialization indicated that university students of sport dominate also in individual positive strategies and at the same time use much less negative coping strategies (Table 5).

An important strategy for coping with load situations in a sample of students of sport appears positive self-instruction. Simultaneously, these individuals reported a lower degree of need of social support and avoidance. As far as negative strategies are concerned, students of sport reported by far the lowest values of perseverance, resignation and self-accusation.

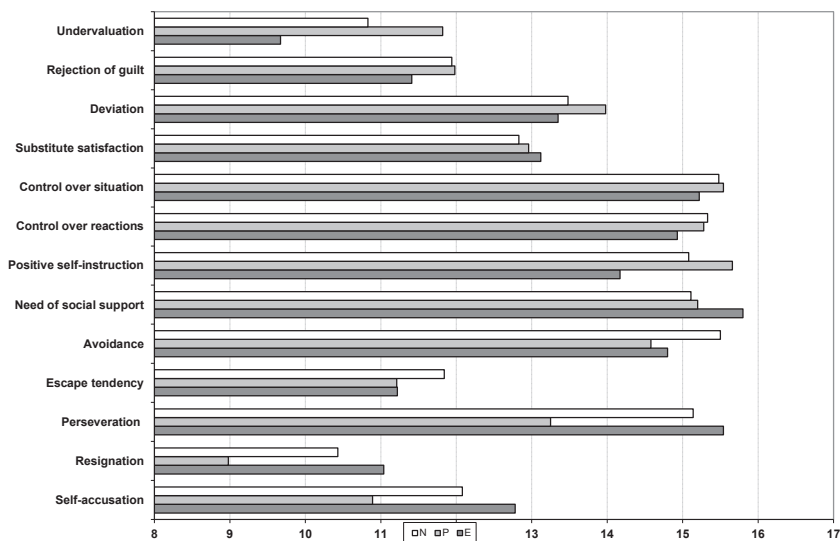
In terms of individual strategies, university students from the Faculty of Education use much less the strategies of undervaluation and rejection of guilt and reported a low level of positive self-instruction and at the same time a high degree of need of social

support. As far as negative stress coping strategies are concerned, university students from the Faculty of Education reported the highest scores in perseverance, resignation and self-accusation (Figure 3).

In terms of individual strategies, a sample of university students from the Faculty of Science oscillates between the values of students of sport and students of education. If we wanted to characterize the students from the Faculty of Science in terms of coping strategies, these are individuals with the lowest identified need of substitute satisfaction, lowest need of social support and at the same time highest level of avoidance and escape tendency (Figure 3).

Figure 3

Comparison of average gross score values of individual coping strategies in current university students with respect to their study specialization



Legend: E – Faculty of Education; P – Faculty of Physical Culture; N – Faculty of Science

Discussion

University students reported a relatively high affinity for stressors. It is believed that a high stress level affects not only students' health but also their academic performance. The most common group of stressors appear to be self-imposed stressors followed by

exogenous pressures. The most frequent responses to stressors are cognitive answers (Hamaideh, 2011). In general, university students report a significantly higher degree of harmful stress compared with common population (Stallman, 2008; Walsh et al., 2010). An important preventive factor reducing individual stress appears to be the selection of students for enrolment in specific courses. It can be assumed that appropriate and targeted selection decreases possible stress during academic study (Kožený, Höschl, & Tišanská, 2002). Such tool can be for example a discrimination analysis or monitoring academic performance by means of a structural model (Kožený, Tišanská, & Höschl, 1998; Kožený & Höschl, 1996).

As far as the monitored personality variables and coping in our sample are concerned, we revealed a significant positive correlation between neuroticism and using negative coping strategies. An increased degree of neuroticism is often defined as one of fundamental personality traits with a significant effect on coping (Hamaideh, 2011). Vollrath and Torgersen (2000) claim that university students who report a high degree of neuroticism and a small degree of conscientiousness have a high vulnerability to stress and its negative coping. A group of students who reported a low degree of neuroticism and a high level of conscientiousness was ranked among those with the most favourable stress profile and effective coping. **Neuroticism is significantly correlated with university stress and has a substantial effect on the onset of somatic symptoms (Lu, 1994).** Students with a high neuroticism score generally report a lower performance need and a high score of avoiding load situations (Komarraju & Karau, 2005). Optimum personality characteristics include an increased rate of extraversion, openness, conscientiousness and agreeableness, which has a positive effect on the preference of using positive coping strategies.

An analysis of stress coping strategies in our sample of university students indicated that university students have considerably higher values of using positive as well as negative strategies compared with average normative values. University students clearly prefer positive strategies of type I and type II. These strategies include particularly undervaluation, rejection of guilt, deviation and substitute satisfaction. The highest difference between the sample of university students and average normative values was identified in the values of substitute satisfaction. On the contrary, positive strategies of type III are all below average normative values. These strategies include control over situation, control over reactions and positive self-instruction. The survey revealed a significantly increased need of social support in the sample of university students. On a larger scale, students also apply the strategies of avoidance, escape tendency, resignation and self-accusation.

In terms of gender differences a significantly higher use of positive coping strategies was revealed in the sample of men. On the contrary, in the sample of women, a significantly higher value of preference of using negative stress coping strategies was identified. However, women use positive strategies such as deviation and substitute

satisfaction more than men, whereas men prefer much more the strategy of undervaluation. At the same time, men reported a higher level of rejection of guilt, increased control over reactions and positive self-instruction. An interesting finding was that the need of control over situation was almost identical between men and women, whereas men reported a higher value of control over reactions.

A comparison of preferences of individual stress coping strategies revealed the highest difference between the sample of men and the sample of women in the strategy of need of social support. This 'singular' coping strategy was significantly higher in the sample of women compared with men. The results of our research indicating that women use the strategy of need of social support more often corresponds with the results of Frydenberg and Lewis (1993), who in their study focused on coping strategies concluded that women have a higher need of social support compared with men. At the same time, women reported a higher coping strategy of avoidance. This corresponds with the conclusions of Heiman (2004), who also claims that women tend to use emotional and avoidance coping strategies on a much larger scale than men.

As far as individual negative stress coping strategies are concerned, overall negative strategies are significantly higher in women. Similarly, all individual negative coping strategies (escape tendency, perseveration, resignation, self-accusation) are higher in women than in men. Considerable differences are especially in perseveration, resignation and self-accusation.

The results of our research correspond with the findings of Janke and Erdmann (2003), who claim that men report higher values in the subtests of undervaluation and rejection of guilt, whereas women report higher values in the subtests of need of social support, escape tendency, perseveration, resignation and self-accusation. The results also indicate women's tendency to higher values of the subtests of substitute satisfaction and avoidance (negative strategies).

However, Nelson et al. (2001) claim that coping styles and social support present moderating variables between stress and distress and at the same time relate relative health to academic achievement. The authors confirmed that students with better academic achievement are healthy, experience a lower degree of stress, have increased social support and use more positive and less negative coping styles. Another interesting finding was that students who used venting of emotions as a coping style also required more medical treatment and reported a higher degree of subjectively perceived stress as a result of academic responsibilities.

In spite of the fact that our results positively confirmed a significantly higher use of positive strategies in men and a significantly higher preference of negative strategies in women, it can be assumed that current choices of coping strategies are influenced by the degree of academic achievement and subjectively perceived stress as a result of academic responsibilities. Individual strategies cannot be thus related only to gender. We must consider a whole complex of factors influencing the preference of various load

coping strategies. Foster et al. (1996) state that there are no significant gender-based differences in stress sources. The largest amount of distress tends to be attributed to the curriculum that needs to be covered, followed by exams and exam results. Similarly, no significant gender-based differences in the level of stress were proved. The preference of individual coping strategies rather depends on satisfaction in social support, self-efficacy, perception of stress and specific load situations (Trouillet et al., 2009).

An analysis of the relationship between coping strategies and specializations revealed that most positive strategies are used by university students specialized in sports. A comparison of using coping strategies by university students of sport and a sample of students of education and science indicates that university students specialized in sports use considerably more individual positive stress coping strategies and much less negative coping strategies compared with university students of education and science. An important strategy for coping with load situations in students of sport appears positive self-instruction. At the same time, these individuals reported a lower need of social support and avoidance. A decreased level of need of social support in students of sport is also concluded by Masten et al. (2009), who compared students of sport with students of medicine and psychology.

In our research, an increased need of social support was reported by students from the Faculty of Education. These students also indicated a higher score in perseverance, resignation and self-accusation. These findings could have been influenced, to a certain extent, by a high proportion of women in this sample.

On the contrary, the lowest need of social support was found in a sample of students from the Faculty of Science. This might be influenced by extraversion, which was the lowest in this sample. We also believe that students of science are more focused on their field of study and devote it more time beyond their academic responsibilities. This could also be supported by another finding – the lowest need of substitute satisfaction in these students. At the same time, students of science reported the highest use of avoidance together with high escape tendencies. This imbalance in the preference of individual strategies in students of science seems adverse and should be considered in psychological university counselling. As far as individual coping strategies are concerned, university students from the Faculty of Science oscillate between the values of students of sport and students of education.

In terms of negative strategies, students of sport reported clearly the lowest values of perseverance, resignation and self-accusation. It can be assumed that these strategies are applied less by students of sport as these individuals are rather used to load situations. As a result of their specialization and sports development they encounter a sense of victory and certain satisfaction as well as defeat and frustration. These situations can then have a positive effect on personality development and the formation of overall mental resilience and the ability to cope with load and increase frustration tolerance. As far as psychology of resilience is concerned, Hošek (2001) claims that

adequate physical load has a health preventive effect and controlled sports activity has an anti-stress, anti-depression, affiliative, recuperation, entertaining, meliorative, harmonizing and anti-involution function. It thus forms a personality of an individual in the context of personality resilience ('hardiness'). An important element of personality formation appears a certain modification of the motivation structure in relation to self-regulation mechanisms and overall motivation formation (Stuchlíková & Man, 2009). This could explain a significantly higher preference of positive coping strategies in students of sports and at the same time significantly lower use of negative strategies in comparison with students of 'purely' theoretical subjects.

Kebza and Šolcová (2008) consider mental resilience a multi-dimensional multifactorial phenomenon. They view resilience as a 'fuzzy set' that consists of personality, social and somatic-based resources, some of which are fundamental for resilience, while others are marginal and some belong to other psychological constructs.

To complete the picture of coping with load situations in current university students, some trends related the length of study and current grade are considered.

In terms of overall positive stress coping strategies and length of study we observed that university students of grade one use these strategies the most. As far as overall negative coping strategies are concerned, we revealed the lowest proportion in students of grade one and the highest proportion in students of grade four. In general, however, no significant differences between various grades were identified. An interesting finding is a certain trend of an increased use of negative coping strategies with higher grade.

It was further observed that university students of grade one reported increased values of positive coping strategies and at the same time lower values of negative stress coping strategies. Stern, Norman and Komm (1993) investigated study-related stressors and claim that students of grade one use more self-accusation strategies and problem-solving styles compared with students of higher grades. At the same time, younger students use more emotional strategies and have stronger social support from friends compared with older students (Heiman, 2004).

Students of grade two oscillate around average values and are not distinguished by specific strategies with respect to length of study. An interesting finding is the highest need of social support. This could be explained by the fact that students in grade two are still at the beginning of their study and are not fully adapted to academic life.

As opposed to students of grade two, third graders are characterized by the lowest values of the strategies of need of social support and avoidance. Their most frequently applied strategy is substitute satisfaction. This finding could lead to an assumption that students in grade three are fully adapted to academic study and related aspects. They are half way through their study, i. e. they have overcome difficult beginnings and are still far from graduation. This could explain the highest observed value of substitute satisfaction. Adapted students of grade three are obviously able to pursue activities not fully related to their study and solve certain barriers or failures by means of substitute

satisfaction. In this age category it would be interesting to perform a study of procrastination with respect to academic responsibilities. Furthermore, students of grade three were observed to have the highest degree of resignation tendencies, even though the strategy of escape tendency was the lowest of all monitored grades.

Students of grade four are characterized by increased application of positive strategies of a control type with an increased tendency to avoidance. In terms of overall negative strategies this is a group with the highest use of this type of strategies. In particular, these include an increased rate of perseveration and escape tendency with increased values of resignation and self-accusation. As far as interpersonal stressors are concerned, Stern, Norman and Komm (1993) state that students of grade four tend to use confrontation coping strategies as opposed to e.g. first graders. According to the authors, however, interpersonal differences do not play a role in the selection of coping strategies.

Conclusions

In terms of strategies for coping with load situations, university students use significantly more positive as well as negative coping strategies compared with normative values. As far as individual strategies are concerned, university students prefer positive strategies such as deviation and substitute satisfaction. At the same time, a higher need of social support and avoidance was observed. The most frequent negative coping strategies included an increased degree of escape tendency and avoidance. Coping strategies in current university students are significantly influenced by gender differences. Men apply much more positive strategies whereas women tend to use negative stress coping strategies. As far as study specialization is concerned, university students of sport use significantly more positive coping strategies and at the same time significantly less negative coping strategies compared with students of education and science. The presented findings have practical applications in approaching the defined target group in the area of university educational and psychological counselling.

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