

PERCEIVED STRESS IN THE CASE OF HIGH-SCHOOL PUPILS AND THEIR COPING STRATEGIES

VASILE RADU PREDA*

ABSTRACT. This article purpose is to highlight the stress factors, anxiety, self-esteem and coping strategies in adolescence. The article is focused to identify; a) the stressors perceived by female and male high-school pupils; b) the pupils' level of perceived stress and (c) the stress management strategies employed by high-school pupils. The data analysis with S.P.S.S. 13 identify some significant differences between male and female 11th and 12th grade pupils regarding the assessment of stressors at school; some significant differences between male and female 11th and 12th grade pupils regarding the anxiety levels, regarding the self-esteem and some significant differences regarding the use of certain coping strategies by male and female high-school pupils.

Keywords: *stress factors, stressors perceived, anxiety, self-esteem, coping strategies, management strategies.*

1. Stress factors, anxiety, self-esteem and coping strategies on adolescence

In adolescence a great number of stress factors accumulate, these being seen as normative, and reaching the highest intensity during puberty. Many of these are actually real tasks that have an impact upon the teenagers' development, tasks that they must carry out in order to be granted the status of responsible adults. Here are some of these factors: acceptance of corporal modifications, acknowledgement of the social importance of sex roles, establishment of relations with other young people, attendance of school classes and continuation of their studies in preparation of a career, achievement of independence and personal freedom, especially financial autonomy, preparation for family life, etc.

Research shows that a change in living conditions can bring about an accumulation of minor and major events that may be construed as stressful. If the teenager cannot cope with the stressors *his/her self-esteem could lower and anxiety might appear* (Simmons et al., 1987).

A survey conducted by Seiffge-Krenke (1994, p.177-178) on 1.028 German teenagers aged 12 to 19, showed that they seem capable of dealing with stressors and of competently solving problems encountered in all the areas of development. *Functional coping* clearly dominates, dysfunctional coping being only rarely employed

* Speech Therapist, PhD, C.R.D.E.I. Cluj-Napoca

and solely for certain kinds of problems. These results point out that self-control and competence are the dominant characteristics, regardless of the kinds of problems that teenagers face.

The most striking differences for active coping and for self-reliance are encountered when *comparing the sexes*. One of the main differences refers to *the use of social resources*. Thus, as they mature, regardless of the nature of the problems, girls seek out advice, counseling, help in order to get comfort but also understanding from others, much more often than boys do. No matter what the problem might be, girls discuss it openly almost immediately with significant others whom they consider important and, generally, they are likely to solve the problem together with the other individual(s) concerned.

Teenagers most often decide to deal with **parent-related problems** directly, but they are quite frequently tempted to avoid the issue by throwing a tantrum, as a red herring. In such situations they look for comfort among peers who might have had similar problems, and discuss with them possible solutions.

It is obvious that when it comes to **school-related problems** teenagers choose more and more frequently, as they grow up, to reflect on the possible solutions. Once more mature, teenagers most often resort to internal coping – analyzing the problem in search for a solution, - being even open to compromise. (McCrae, 1982). Most of the teenagers in all the age groups, although to different degrees and with various frequencies, discuss some school-related problems with their parents. However, they also resort very often to emotional reactions, manifested in anger and aggression.

Teenagers rarely discuss with their parents and with other adults **the problems** they might have **with their friends**, choosing to deal; directly with the one(s) involved. This tendency is even more dominant in the case of **sentimental problems**, which are usually discussed directly with the partner, in an attempt to identify the best solutions, being obvious that each of the two must be willing to communicate, to accept the influence of the other, so as to reach an agreement.

Regarding the use of social resources, gender differences are especially clear, with girls resorting to social support more often than boys, in the case of school issues, parent-related problems and psychological quandaries involving their very person.

2. Research methodology

2.1. Research objectives

- a)** To identify the stressors perceived by female and male high-school pupils
- b)** To investigate pupils' level of perceived stress
- c)** The factorial analysis of the *Adolescent Coping Orientation for Problem Experiences* questionnaire (B. Plancherel, R. Nunnez, M. Bolognini, C. Leidi and W. Bettschart, 1992).

d) To identify the stress management strategies employed by high-school pupils.

2.2. Hypotheses

a) There are some significant differences between male and female 11th and 12th grade pupils regarding the assessment of stressors at school;

b) There are some significant differences between 11th and 12th grade pupils regarding the assessment of the impact that the stressors at school might have upon perceived stress;

c) There are some significant differences between male and female 11th and 12th grade pupils regarding the anxiety levels;

d) There are some significant differences between 11th and 12th grade pupils regarding self-esteem;

e) There are some significant differences regarding the use of certain coping strategies by male and female high-school pupils.

2.3. Participants

217 pupils from Cluj-Napoca, of whom:

- 105 pupils in the 11th grade (60 girls and 45 boys, of mean age 15 years and 3 months).

- 112 pupils in the 12th grade (62 girls and 50 boys, of mean age 17 years and 5 months).

Table I.

The participants of study

Grade / Gender	Number	Mean age (standard deviation)
Girls – 11 th grade	60	15.2 (0.7)
Boys – 11 th grade	45	15.4 (0.6)
Girls – 12 th grade	62	17.4 (0.5)
Boys – 12 th grade	50	17.6 (0.4)

The research was carried out in the 2007-2008 and in the 2008-2009 school years, during the second semester – the months of February through March.

2.4. Instruments of research:

a) The questionnaire regarding pupil stressors – which we have designed.

b) The *Perceived Stress Scale – PSS*, elaborated by Cohen, Kamarack and Mermelstein, 1983) – translated and adapted.

- c) The Spielberger Anxiety Inventory - *State/Trait Anxiety Inventory (STAI)* – translated and adapted.
- d) The Coopersmith Self-Esteem Inventory – translated and adapted.
- e) The A-COPE Questionnaire (translated into Romanian and adapted after The Adolescent Coping Orientation for Problem Experiences (Plancherel, Nunnez, Bolognini, Leidi and Bettschart, 1992).

3. The analysis of the data regarding perceived stress and this effects on high-school pupils

3.1. Perceived stressors in the case of 11th grade pupils as compared to 12th grade pupils

Data analysis showed the existence of great differences between the percentage of affirmative answers regarding *perceived stressors* in the case of 11th grade pupils as compared to 12th grade pupils at items referring to:

- a) *the necessity to study more intensively* (stressor perceived by 67.8 % of the 12th grade pupils as compared to 52.2 % of the 11th grade pupils);
- b) *the amount of work to be done at home for homework and class preparation* (stressor perceived by 54.4 % of the 12th grade pupils as compared to 30.4 % of the 11th grade pupils);
- c) *a much too busy schedule* (stressor perceived by 61.0 % of the 11th grade pupils as compared to 68.6% of the 12th grade pupils);
- d) *the assessment and grading of knowledge and skills* (stressor perceived by 30.4 % of the 11th grade pupils as compared to 22.3 % of the 12th grade pupils);
- e) *the assessment and grading of knowledge and skills* (stressor perceived by 23.8 % of the 11th grade pupils as compared to 16.9 % of the 12th grade pupils).

Thus, the stressors perceived most frequently and more intensely by pupils are those related to study tasks, as well as to oral and written assessment, especially since the curriculum and the schedules are overloaded, requiring more intensive study. 12th grade pupils, who also have to prepare for the leaving examination, perceive to a greater extent this stress caused by *the need to study more intensively* and that due to *the amount of work to be done at home for homework and class preparation*. In some cases, the effects of these stressors are intensified by the extremely high expectations, sometimes even exaggerated, on the part of teachers and parents.

With the exception of pupils' opinions on their parents expectations concerning their results at school, where there are insignificant differences ($p=0.10$), there are highly significant differences between the opinions of 11th grade pupils and those of 12th grade pupils in the case of the other major stressors regarding school activities.

By using the *Perceived Stress Scale* we studied and compared the scores pertaining to **the frequency of perceived stress in the case of 11th and 12th grade pupils**. The highest score possible in the case of perceived stress is 70.

Data analysis shows that *the hypothesis regarding the existence of differences regarding perceived stressors in the case of 11th grade pupils as compared to 12th grade pupils has been confirmed.*

Table II.

The significance of the difference between the mean scores of perceived stress in the case of 11th and 12th grade pupils

Perceived score stress (medium and above-medium level) for male 11 th graders (N=45)	Perceived score stress (medium and above-medium level) for male 12 th graders (N=50)	Test t (p)
$m = 29.87$ $\sigma = 2.25$	$m = 35.70$ $\sigma = 2.50$	$t = 11.9639$ $p < 0.01$
Perceived score stress (medium and above-medium level) for female 11 th graders (N=60)	Perceived score stress (medium and above-medium level) for female 12 th graders (N=62)	Test t (p)
$m = 30.75$ $\sigma = 1.35$	$m = 41.40$ $\sigma = 2.35$	$t = 30.8160$ $p < 0.01$

The table above shows that in the case of 11th graders and especially in the case of 12th graders there are highly significant differences between male and female pupils regarding perceived stress frequency.

We identified highly significant differences (at $p < 0.01$) between the mean scores of stress perceived by 11th and 12th graders, both in males and in females. There are significant differences between the scores of stress perceived by 11th and 12th graders, as well as between the scores of stress perceived by males as compared to those perceived by females. In both cases female shave higher scores than males, the frequency and the intensity of stress being higher in females than in males.

High-school students perceive stress quite often, with a frequency of 3 up to 5 depending on the questionnaire items. The scores for medium and above-medium levels of perceived stress are higher in 12th graders, as they also need to prepare for the school leaving examination.

We must add that the tensions regarding the possible physical and psychological exhaustion of pupils, especially emotional exhaustion, at such times as those of testing knowledge and competencies, can cause **a state of anxiety and diminish their feeling of self-efficacy**. Thus, perceived stress in high-school students can determine an increase in their anxiety-state.

Our data show that even though in the case of female pupils the mean **anxiety as trait** is a little higher than in male pupils, there are actually no statistically significant differences between female and male 11th graders, nor between female and male 12th graders in what concerns this form of anxiety.

Of great interest are also the data that we obtained in what concerns female and male high-school pupils' **anxiety-state**. The table below shows that even though female 9th graders display a mean of anxiety-state a little higher than that of male 9th graders, there are no statistically significant differences between males and females in this respect.

Table III.
Comparing STAI – state scores obtained in the case of 9th graders

STAI – state scores (anxiety as state)	Mean	Standard deviation	Test t p
Male 9 th graders N=45	36.50	9.8	t=1.0394
Female 9 th graders N=60	38.50	9.7	p=0.05 (insignificant difference)

Data analysis shows that even though the mean scores in females are a bit higher, there still are no statistically significant differences, neither regarding anxiety as state, nor anxiety as trait.

Table IV.
Comparing STAI – state scores obtained in the case of 9th graders

STAI – state scores (anxiety as state)	Mean	Standard deviation	Test t p
Male 12 th graders N = 50	37.50	9.8	t=0.9395
Female 12 th graders N = 62	39.25	9.8	p=0.05 (insignificant difference)

In both male and female 9th and 12th graders ***the anxiety as state level is higher than that of anxiety as trait***, this being the result of everyday stressors, both situational and school-related. Although both 9th and 12th grade female pupils display a mean score of **anxiety-state** a bit higher than the respective mean score in the case of males, there are no statistically significant differences between male and female pupils in this respect.

As for self-esteem, our investigations pointed out that there are highly significant statistical differences ($p<0.005$) between the scores obtained by male 9th graders and female 9th graders regarding general self-esteem and social self-esteem (with regard to peers and friends, etc.). Male pupils got higher scores, which point to a higher level of self-esteem than that of females.

The table above shows that there are differences between the mean scores obtained by male and, respectively female 9th graders, as well as between those obtained by male and, respectively, female 12th graders regarding *self-esteem (general self-esteem, family-related self-esteem and school-related self-esteem)*.

Table V.**High-school pupils' self-esteem function of the gender and class variables**

Mean scores and coefficients regarding self-esteem per participant samples	Male 9 th graders (N= 45)	Female 9 th graders (N=60)	Male 12 th graders (N= 50)	Female 12 th graders (N= 62)
General self-esteem	20.17 $\sigma = 2.29$	18.62 $\sigma = 2.15$	21.00 $\sigma = 2.54$	19.50 $\sigma = 2.21$
Social self-esteem (with regard to peers and friends, etc.)	6.07 $\sigma = 0.55$	5.67 $\sigma = 0.35$	6.00 $\sigma = 0.52$	5.86 $\sigma = 0.48$
Family-related self-esteem	6.25 $\sigma = 0.67$	6.12 $\sigma = 0.54$	5.50 $\sigma = 0.37$	6.48 $\sigma = 0.73$
School-related self-esteem	4.86 $\sigma = 0.24$	4.82 $\sigma = 0.23$	5.00 $\sigma = 0.28$	5.00 $\sigma = 0.29$
TOTAL	37.35	35.23	37.50	36.84

The analysis of the data concerning the comparison between the scores obtained by female 9th graders and 12th graders points to the fact that all the self-esteem coefficients for female 12th graders are higher than those for female 9th graders.

There are significant differences at $p < 0.05$ between the scores obtained by male 9th graders and 12th graders regarding general and school-related self-esteem, the latter having higher levels of self-esteem. In what concerns social self-esteem (with regard to peer relations and friendships, etc.) there are no statistically significant differences.

There are no statistically significant differences between the results obtained from male versus female 12th graders regarding school-related and social self-esteem.

The analysis of the data concerning the scores of 9th graders versus those of 12th graders shows that there are statistically significant differences ($p < 0.005$) *only in what concerns family-related self-esteem*, the former having higher self-esteem than the latter.

3.2. The coping strategies used by high-school pupils

In what regards the stress management strategies used by *high-school male and female pupils*, our data show that in order to solve various problems and cope with stressful situations pupils employ more types of strategies, depending on the specificity of each problem or situation that they have to face at school or elsewhere. Thus, the answers that pupils gave to questionnaire items point to the use of both avoidance strategies and active strategies, so problem-centered stress management strategies are used along with emotional coping.

On the basis of the results obtained by factorial analysis we have emphasized the way in which pupils choose the various stress management and/or problem-solving strategies, specifying the high-school pupils' manner of response to stressful situations.

Table VI.

The significance of the differences between the mean scores obtained by male and female high-school pupils regarding the coping strategies that correspond to the six factors

Factors	Males (N=95) Mean	Males Standard deviation	Females (N=112) Mean	Females Standard deviation	Test t p
F 1 – humour and fun	3.24	1.13	2.69	1.12	t=3.5037 p<0.005
F 2 – substance use/ problem avoidance	2.86	1.21	2.87	1.18	t=0.0599 p = 0.05
F 3 – negative feelings	2.41	1.08	2.47	1.04	t= 0.4051 p = 0.05
F 4 – social relations/use of social support	2.84	1.15	3.30	1.13	t=2.8907 p<0.005
F 5 – involvement in activities	3.42	1.18	3.45	1.05	t=0.1917 p=0.05
F 6 – use of family support	2.82	1.11	2.81	1.15	t=0.0635 p=0.05

The data that we obtained show that the favorite response to problem situations is *the involvement in activities*, the mean score for males being 3.42 and for females 3.45. Consequently, both male and female high-school pupils choose active coping strategies, rational strategies of solving problem situations, in other words they prefer cognitive coping strategies.

The differences between male and female pupils are present when it comes to other stress management strategies. Thus, we noticed that male pupils focus more than female pupils on entertainment strategies, humor and fun (mean score = 3.24), while girls use more often than boys social relations, looking for social support (mean score = 3.30). However, both boys and girls look for family support very seldom when dealing with stressful problems, which can be explained by the age-specific psycho-social features, teenagers attempting to distance themselves from the authority of the family.

Female and male high-school students resort almost equally to avoidance strategies, the mean scores for "substance use/problem avoidance" being very close (2.86 for boys and 2.87 for girls). Consequently, in some problem situations high-school pupils resort to avoidance strategies, which, however, fail to solve their problems.

Both boys and girls resort to emotion-centered coping strategies, choosing to express their negative emotions and feelings to approximately the same extent (m = 2.41 for boys and m = 2.47 for girls).

Data analysis shows that **the hypothesis** according to which *the coping strategies used by female pupils are relatively different from those used by male pupils has been partially confirmed*, statistically significant differences being obtained only in the case of the following factors: "humor/fun" and "social relations/use of social support".

Our data show that, generally, the interviewed high-school pupils have insufficient trust in some of their teachers, school counselors or priests, in what concerns the support these might offer in order to help them solve stressful situations. Taking into account these data, *we believe that teachers and, especially, school counselors should be more involved in the activities offering support to pupils, so that these may find solutions for the stressful situations confronting them. But, at the same time, we must state that some school counselors have to take care of more high-schools, being assigned huge numbers of pupils, which can explain the situation outlined above.*

The way in which teachers and pupils deal with stress constitutes an important aspect both for their psychological adjustment and for the prevention of undesirable consequences that might affect school life.

REFERENCES

- Anaut, M. (2003). *La résilience*. Paris, Nathan.
- Bandura, A. (1997). *Self-efficacy: the exercise and control*, New York, W.H. Freeman and Company.
- Bandura, A. (2000). *Cultivate self-efficacy for personal and organizational effectiveness*. In: E.A. Lock (Ed.). *Handbook of principles of organizational behavior*. Oxford, Blackwell, pp. 120-136.
- Bandura, A. (2003). *Auto-efficacité, le sentiment d'efficacité personnelle*. Paris, Bruxelles, De Boeck.
- Bolognini, M., Plancherel, B., Núñez, R., Bettschart, W. (1994). *Préadolescence. Théorie, recherche et clinique*, Paris, ESF.
- Cohen, F., Wills, T.A. (1985). Stress, social support, and buffering hypothesis, *Psychological Bulletin*, 98, 2, p. 310-357.
- Compas, B.E., Davis, G.E., Forsythe, C.J., Wagner, B.M. (1987). Assessment of major and daily stressful events during adolescence: The adolescent perceived events scale, *Journal of Consulting and Clinical Psychology*, 55, p. 534-541.
- Compas, B.E. (1987). Stress and life events during childhood and adolescence, *Clinical Psychology Review*, 7, 3, p. 275-303.
- Compas, E.B. and colab. (2001). Coping With Stress During Childhood and Adolescence: Problems, Progress, and Potential Theory and Research, *Psychological Bulletin*, vol. 127, nr. 1, p. 87-127.
- Connor-Smith, J.K. and colab. (2000). Responses to stress in adolescence: Measurement of coping and involuntary stress responses, *Journal of Consulting and Clinical Psychology*, 68, 6, p. 976-992.

- Dall'Ava, M-C, Albaret, J-M. (1998). Relaxation et processus de coping à l'adolescence: réflexions et quelques limites, *Evolutions Psychomotrice*, vol. 10, nr. 39, p. 49-53.
- McCrae, R. R. (1982). Age differences in the use of coping mechanisms, *Journal of Gerontology*, 37, p. 454-460.
- Muller, L., Spitz, E. (2003). Evaluation multidimensionnelle du coping: Validation du Brief COPE sur une population française, *L'Encéphale*, 29, 1, p. 507-518.
- Plancherel, B., Nunnez, R., Bolognini, M., Leidi. C., Bettschart, W. (1992). Evaluation des événements existentielles comme prédicteurs de la santé psychique à la préadolescence. *Revue Européene de Psychologie Appliquée*, 42, 229-239.
- Preda, V.R. (2006). Mecanismele de coping și caracteristicile personalității adolescenților, *Revista de Psihopedagogie*, 2, p. 130-140.
- Preda, V.R. (2006). Factori stresanți, anxietate, stimă de sine și strategii de coping la vîrstă adolescenței, în: V. Preda (coord.). *Elemente de psihopedagogie specială*, Cluj-Napoca, editura Eikon, p. 246-272.
- Ribes, G. (2005). *Coping et strategies d'adaptation*, Université Lumière Lyon 2, Laboratoire de la Santé et du Développement.
- Seiffge-Krenke, I., Shulman, S. (1990). Coping style in adolescence: a cross-cultural study, *Journal of Cross-Cultural Psychology*, 21, p. 351-377.
- Seiffge-Krenke, I. (1994). *Le coping à l'adolescence: âge, sexe et différences culturelles*, în: M. Bolognini, B. Plancherel, R. Núñez, W.Bettschart et. all., *Préadolescence. Théorie, recherche et clinique*, Paris, ESF.
- Seiffge-Krenke, I. (1994). *Le coping à l'adolescence*, în: Bolognini, M., *Préadolescence. Théorie, recherche et clinique*, ESF, Paris, p. 173-183.
- Seiffge-Krenke, I. (1995). *Stress, Coping and Relationships in Adolescence*, New Jersey, Lawrence Erlbaum.
- Simmons, R.G., Burgeson, R., Carlton-Ford, S. (1987). The impact of cumulative change in early adolescence, *Child Development*, 58, p. 1220-1234.
- Spielberger, C.D. (1993). *Inventaire d'Anxiété Etat-Trait forme Y*, Paris, Centre de Psychologie Appliquée.
- Tatar, M., Yahav, V. (1999). Secondary school pupils' perceptions of burnout among teachers', *British Journal of Educational Psychology*, 69, p. 457-468.

On-line sources:

- Băban, A., Schwarzer, R., Jerusalem, M. (1996). *Rumanien Version of General Self-Efficacy Scale*, <http://userpage.fu-berlin.de/~health/rumania.htm>
- Frydenberg, E., Lewis, R. (1993). *Tools: Adolescent Coping Scale*, <http://www.wilderdom.co/tools/ToolsAdolescentCopingScale.html>
- Greenglass, E. and colab. (1999). *The Proactive Coping Inventory (PCI): A Multidimensional Research Instrument*, [\(07.07.2009\)](http://userpage.fu-berlin.de/~health/poland.htm) [\(07.07.2009\)](http://userpage.fu-berlin.de/~health/poland.htm)
- *** Coping Strategies Scale, <http://www.caleton.ca/diversity/copesurvey/files/copescalen.html>