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Self-Efficacy and Optimism as Mediators of Perceived Stress in Adolescence

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Abstract: The perceived stress of the adolescents in their daily lives gives valuable information regarding their attitude when encountering difficulties. Similarly, it provides insights on their level of contentment with their own lives. In this particular context, an array of resources which would allow them to cope with new situations that are inevitably caused by their development, becomes crucial.
This current research analyses the extent to which attitudes of self-efficacy and optimism influence teenagers' thoughts and coping methods with the unpredicted and stressful events that life can bring to their daily routine (Jerusalem & Mittag, 1995).
In order to get an understanding in depth of the research topic, a sample of 525 Romanian students including 186 boys (35,4%) and 339 girls (64,6%) aged between 15 to 18 years old (average age = 16; SD = 1,04) were selected for the purpose of this study. The researcher's hypothesis was based on the assumption that participants who demonstrate high levels of self-efficacy and optimism tend to evaluate problems as being less stressful while compared to those who scored lower percentages on these two attitudes. A quantitative methodology has been chosen to collect the data through the use of questionnaires including: the Problem Questionnaire (PQ), developed by Inge Seiffge-Krenke, the General Self- Efficacy Scale (GSE) by Jerusalem and Schwartzer (1992) and the Life Orientation Test-Revised developed by Carver and Scheier.
The results show that self-efficacy, the optimism level and resilience have a positive impact on how tasks are dealt with. Teenagers with strong attitudes of self-efficacy perceive themselves as being more capable of overcoming difficulties. They have a more optimistic perspective of situations, and they also tend to interpret life obstacles as challenges rather than threats, therefore focusing more on opportunities. On the other side, teenagers who scored low percentages on the self-efficacy and optimism analysis, seem to worry more and feel less proficient and capable when facing various tasks or stressful situations.

Keywords: *adolescence, perceived stress, self-efficacy, optimism, problem questionnaire.*

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Introduction

Adolescence is a transition period characterized by profound and important changes, stage which is considered one of the most complex and important ones, and which, like other development transitions, assumes a number of challenges for the teenager. The main challenges for the teenager mainly refer to the acceptance of their own body, learning the social role (male or female) and integrating into society, the orientation towards a profession, gaining the emotional independence from their parents, as well as the necessity of establishing a scale of ethical values in their own life (Havighurst, 1956).

Literature Review

The studies show the fact that the majority of teenagers pass through this period without reporting major difficulties; thus, there are a number of daily events, connected to the multiple changes which the teenager has to face, which could be a source of stress for the teenager, and they can destabilize them both psychic and emotional.

The most frequent sources of stress during adolescence period are not the major crises (like losing a dear person or parents' divorce), but the daily issues, connected to school, the relationship with their parents or colleagues, economic uncertainty (Seiffge-Krenke, Schulman & Klessinger, 2001), and on the other hand difficulties like choosing the clothes, money management or free time management (Douvan & Adelson, 1966).

The researches done by Seiffge-Krenke and Shulman (1990) in this respect showed that the minor daily issues become significant during time and they require an adaptive and continuous effort, which can be more expensive than the efforts made in order to face the major problematic issues.

On the one hand is important to know the level of stress perceived by the teenagers in different aspects of their daily life, because in this way we can have important information about their attitudes toward difficulties, and about their level of satisfaction regarding life itself. On the other hand, the tensions specific to their age can lead to forms of violence and delinquent behaviors as an expression of the incapacity of handling frustrations. Thus, it becomes essential for the teenagers to have a repertoire of resources (personal and social), which should allow them to face the new situations, which the growth inevitably involve, in a constructive way.

In formulating the main theory of this study, I started from the cognitive-social theory of Bandura (2000a) who defined the self-efficacy as being the confidence in your own abilities and the capacity to face the new tasks and adversities in a wide range of stressful and difficult situations, while other authors (Zani, 1999) emphasize the importance of the self-efficacy in building the coping abilities.

The consciousness of your own efficiency plays an important role in the expectations regarding the results of a specific behavior. In other words, a person who believes himself as being efficient in facing some unexpected and stressful events is more likely to be determined to take into consideration in a positive way his repertoire of resources in order to deal more successfully with the next life challenges.

Other researches on the other hand show that the people who have a low feeling of self-efficacy are often victims of stress and depression, facing the failure experiences with greater difficulty (Bandura, 2000b).

Another individual variable which plays the role of stress mediator is the optimism. This reflects the extent to which people tend to have favourable expectations for their future. According to Scheier and Carver (1985), the optimism is a general and stable characteristic of personality, which influences the attitudes and behaviors, with consequences upon physical and emotional health of the person.

The researches showed that higher levels of optimism were positively correlated with subjective wellbeing in difficult times.

In accordance with these conclusions, the optimism was linked to higher levels of involvement and adaptation and to lower levels of avoidance and disengagement.

Optimism is also one of the factors which contribute to the development of resilience, understood as being the capacity to positively deal with the stressful life events, which are associated with a high risk of occurrence of psychopathological disorders during the adolescence (Ellicott et al, 1990).

Another aspect of this motivational model is given by the belief that the objectives can be accomplished. In other words, if the teenagers doubt the fact that they are capable of achieving a goal, it is possible for them to give up doing this, or to premature interrupt this action or even not start it. Thus, the optimist people are confident in achieving a goal and in this way they keep going, even in front of adversity. Therefore, the ways in which the optimist and the pessimistic people differ in their approach of the world have a significant impact on their own lives.

The aim of the study

Taking into consideration these aspects, the present study aims to analyze the way in which the personal resources, like self-efficacy and optimism, influence the teenager's perception of the stressful daily events and the way these experiences are handled.

Also we want to investigate the way in which the perception of stress and the level of self-efficacy and optimism vary according to the respondents' gender and according to the socio-economic level of their family.

Methodology

Study design

In this study we started from the hypothesis that the subjects with high scores of self- efficacy and optimism, in comparison with those with lower levels, evaluate the issues as being less stressful in the different analyzed areas.

Also we consider that the level of stress perceived, the optimism and self-efficacy are factors which are influenced by the socio-demographic variables like: age, gender, the socio- economic and cultural status of the family.

For identifying the effects that the variables age, sex, gender, family status, have on the level of stress perceived, I made the variation (ANOVA) with the test *post-hoc* by Bonferroni, and the size of the effect with square eta (η^2). The Student "t" test was used for the independent samples, while the "d" of Cohen was used for the size of the effect. In the end it was made the analysis of the Pearson's correlation coefficient "r".

For example, the gender of the participants had a significant effect from a statistic point of view upon the level of stress reported by the teenagers.

For the scale of self-efficacy and optimism, were created appropriate variables, which defined on an average how many subjects had a high or low score. Starting from these variables, the differences for each area in which were noticed stressful issues were calculated using the Student "t" test.

The data were analysed using SPSS (Statistical Package for Social Sciences) and descriptive and inference analysis.

Participants

The study participants were 525 students, from which 186 masculine (35.4%) and 339 feminine (64.6%), with ages between 15 and 18 (average

age = 16; DS = 1.04), from three high schools from Maramures county. Regarding the school training, most of the students are enrolled at high schools with a scientific profile (62.7%), followed by students who study at high schools with a humanistic profile (23.0%) and services- technological profile (13.0%).

The sampling method realized for this study was un-probabilistic, because it wasn't possible a random choosing of the students taken into consideration. The identification of the sample was made starting from the interviews made with the form masters of the students' classes, and with the subjects of the research as well, who were explained the objectives and the way of managing the questionnaire.

Regarding the economic status of the family: 80.8% from our subjects declare that they have an average income, 17.7% have a high income, while only 1.5% from our subjects declare that they live in a family with small income.

Instruments

The tools used for collecting the data were *Problem Questionnaire* (PQ), created by Seiffge-Krenke (Köhln University), which allowed the identification of the stress perceived in different areas (school, family, free time, the relationship with himself, work, future, emotional relationships), *The General Self-Efficacy Scale* (GSE), by Jerusalem and Schwartzer (1992) and *Life Orientation Test - the revised edition* (LOT-R), by Carver and Scheier (1985).

PQ refers to a number of situations, daily life aspects which adolescents identified as being problematic, as being the relation with school (for example: taking low grades), with parents (for example: scarce communication), with friends (the lack of a friend with whom to share his own issues), but with the free time as well (not knowing how to spend the free time), with the self (not being satisfied with its own aspect), romantic relationships (not having a close friend) or connecting to the future (fear of unemployment). The most frequent form of PQ has 61 questions, the subjects being invited to evaluate, with sincerity and spontaneity, to what extent the issues presented are perceived as being stressful. Each item was assessed on a 5 – point Likert scale, with "1" = "not at all stressful" to "5" = very stressful.

The General Self-Efficacy Scale (GSE), by Jerusalem and Schwartzer (1992), has 10 items. GSE measures the beliefs which the individuals have when facing different situations by capitalizing their skills.

Self-efficacy concentrates on one's ability of dealing with new and difficult tasks in a wide range of different areas, like: adapting to the daily life issues, trusting one's capacity of achieving goals, investing energy and continuing "the action".

GSE has 10 items which are assessed on a Likert scale of 4 points, starting from "not at all true" to "totally true"; for example: "Thanks to my resourcefulness, I know how to handle unforeseen situations", „I can usually handle whatever comes my way". The higher scores on the scale indicate higher levels of self-efficacy.

Revised Life Orientation Test (LOT-R), by Carver and Scheier (1985), was used especially for studying the behavior and for assessing the effects of the optimism upon the quality of the emotional relationships and mental health.

The LOT-R test consists of 10 items: 3 items measure optimism, 3 items measure pessimism, and 4 items serve as fillers, therefore they are not used to calculate scores.

Respondents were asked to indicate the level of agreement with statements like: „In uncertain times, I usually expect the best" or „I hardly ever expect things to go my way", using a Likert scale with 5 points which vary from 0 („strongly disagree") to 4 („strongly agree").

There were made reliability analyses of the global subscales and scales, and also correlational analyses between different scales of the same instrument, the two instruments (PQ and GSE) having, as an average, a good internal consistency, while for the LOT-R the reliability is satisfying.

The results and discussion

There were made analyses of reliability of subscales and of global scales (where it was possible), as well as correlational analyses between different scales of the same instrument, the two instruments having, as an average, a good internal consistency.

Therefore, the internal consistency of PQ scales proved to be in a good average (α =.630 - .941), excepting the first 2 subscales, regarding the issues with school (α = .698) and with the future (α = .630), where there was a low level of Alpha Cronbach coefficient.

The correlations between the different issues perceived as being stressful emphasized the existence of some significant relationships with colleagues and issues regarding the spending of free time (r = .696), between problems regarding the management of the free time and problems related to the opponent gender (r = .672), as well as problems with the self and the ones regarding the relations with the opponent gender

(r = .668). In our research, the internal coherence for GSE is good with an Alpha coefficient of Cronbach equal with α = .815, while the reliability of the LOT-R is not very high, being α =.613, demonstrating an acceptable level of internal consistency.

The average level of the total stress perceived by the teenagers from our sample is M =2,67, meaning between a low level of stress and a moderated one. As an average, the areas perceived as being a source of stress are: the future (M = 3,04, SD = 0,80), school (M = 2,77, SD = 0,81), relationship with parents (M = 2,73, SD = 0,90), free time (M = 2,69, SD = 0,90), self-relationship (M = 2,62, SD = 0,86), colleagues (M = 2,46, SD = 0,86) and the relationships with the other sex (M = 2,44, SD = 0,94).

In this way, doing a "t" analysis of Student on gender, in different age groups, regarding the different stress areas, the 16 years old girls are the ones who report more issues in school, in comparison with their colleagues of male gender, regarding the future (t = -4.43, p <.001) (M = 3.15), relationship with parents (t = -2.67, p = .008) (M = 2.80), relationship with their colleagues (t = -2.25, p = .025) (M = 2.52), free time management (t = -1.99, p = .047) (M = 2.75), self-relationship (t = -3.38, p = .001) (M = 2.71) and in general all the issues, as a whole (t = -3,298, p = .001), which are perceived as being more stressful, in comparison with boys.

All those 3 categories of income (high, medium and low) ($F(2,522)$ 13.94 p = .<001) differ one from the other regarding the assessment of self-efficacy. More exactly, those with low income (M = 2,26) have a lower level of self-efficacy than those with medium income (M = 2,91) and high income (M = 3,12); those with medium income (M = 2,91) assess their self-efficacy as being a high one, in comparison with those who have families with lower income (M = 2,26), and an ordinary one, in comparison with those who declare a high income (M = 3,12) while the teenagers whose families have a high income (M = 3,12) assess their self-efficacy higher than those with average income (M = 2,91) or low income (M =2,26).

Likewise, those with a lower income (M = 8,88) are less optimistic ($F(2,522)$ 6.30 p =.002) in comparison with the teenagers with an average income (M = 13.13) and high income (M = 14.01).

These findings are close to the conclusion of other studies regarding the influence of the family's socio-economic level on the optimism and on the perception of stress during adolescence (Finkelstein et al., 2007). In other words, the multiple disadvantages of poverty can limit the development opportunities of those strategies which are necessary for successfully overcoming the stressful events.

Regarding the correlational analyses between the level of stress perceived and the level of self-efficacy, our results seem to confirm what other researchers (Carver, Scheier & Segerstrom, 2010) have previously emphasized, that the individuals with lower levels of optimism perceive the difficult situations as being stressful.

In the end, the teenagers who have a higher level of optimism experience the issues with the future in a less stressful way ($t = 3.50$, $p < .001$) ($M = 2.91$), parents at home ($t = 3.94$, $p < .001$) ($M = 2.57$), regarding spending their free time ($t = 2.22$, $p = .027$) ($M = 2.60$), the relationships with the opposite sex ($t = 2.79$, $p = .005$) ($M = 2.33$), self-issues ($t = 3.61$, $p < .001$) ($M = 2.49$) and problems in general ($t = 3.64$, $p = .001$) ($M = 2.57$) in comparison with those with a lower level of optimism (respectively, $M = 3.16$, $M = 2.88$, $M = 2.78$, $M = 2.56$, $M = 2.75$ e $M = 2.78$). In conclusion, the people with a high level of optimism and trust in the possible success continue to try to solve the issue, even though sometimes this may seem difficult.

Also the respondents with a high score of self-efficacy experience the different problematic issues with school ($t = 2,33$, $p = .020$) ($M = 2,69$), future ($t = 2,15$, $p = .032$) ($M= 2,96$), parents at home ($t = 2.67$, $p = .008$) ($M = 2.63$), regarding spending their free time ($t= 3.15$, $p = .002$) ($M = 2.57$), the relationships with the opposite sex ($t = 2.12$, $p = .034$) ($M =2.36$), self-issues ($t = 3.81$, $p <.001$) ($M = 2.49$) and problems in general ($t = 3.36$, $p = .001$) ($M = 2.59$) as being less stressful than those with low levels of self-efficacy ($M = 2,86$, $M =3,11$, $M = 2,84$, $M = 2,82$, $M = 2,54$, $M = 2,77$ and respectively $M = 2,78$).

Table 1 – t (of Student) variables of the stressful issues between low and high self-efficacy level

	Low Self-efficacy (n=251)		High Self-efficacy (n=274)						
	M	*SD*	*M*	*SD*	Diff. in means (MD)	*t*	*df*	*p*	Cohen's D
Problems with school	2.86	0.80	2.69	0.82	0.16	2.33	523	.020	.210
Problems with future	3.11	0.73	2.96	0.85	0.15	2.15	523	.032	.190
Problems with parents	2.84	0.86	2.63	0.93	0.21	2.67	523	.008	.230
Problems with peers	2.53	0.83	2.39	0.89	0.14	1.84	522	ns	.160
Problems with leisure time	2.82	0.86	2.57	0.91	0.25	3.15	523	.002	.280
Problems with romantic relationships	2.54	0.92	2.36	0.96	0.18	2.12	522	.034	.190
Self-related problems	2.77	0.84	2.49	0.85	0.28	3.81	523	.000	.330
Problems TOTAL	2.78	0.65	2.59	0.68	0.19	3.36	523	.001	.290

Source: Authors' own conception

These results offer the empirical confirmation of other studies regarding this subject, demonstrating that both the perception of self-efficacy and the optimism have a fundamental moderator function in approaching the tasks and difficulties, allowing their solving in a constructive way.

Table 2 – *t* (of Student) variables of the stressful issues between low and high optimism level

	Low Optimism (n=267)		High Optimism (n=258)						
	M	*SD*	*M*	*SD*	Diff. in means (MD)	*t*	*df*	*p*	Cohen's D
Problems with school	2.84	0.84	2.71	0.79	0.13	1.82	523	ns	.160
Problems with future	3.16	0.81	2.91	0.77	0.24	3.50	523	.000	.320
Problems with parents	2.88	0.89	2.57	0.90	0.31	3.94	523	.000	.350
Problems with peers	2.52	0.85	2.39	0.87	0.13	1.69	522	ns	.150
Problems with leisure time	2.78	0.91	2.60	0.88	0.17	2.22	523	.027	.200
Problems with romantic relationships	2.56	0.95	2.33	0.93	0.23	2.79	522	.005	.250
Self-related problems	2.75	0.88	2.49	0.81	0.27	3.61	523	.000	.310
Problems TOTAL	2.78	0.67	2.57	0.66	0.21	3.64	523	.000	.320

Source: Authors' own conception

Conclusions

The teenagers with a strong feeling of self-efficacy perceive themselves as being capable of overcoming the obstacles, have an optimistic explanatory style, they tend to interpret the obstacles mainly as challenges, rather than threats, so consequently they concentrate more on opportunities.

On the contrary, the teenagers with a low level of self-efficacy and optimism worry more, they feel less competent in dealing with some stressful tasks and events. In conclusion, experiencing the stress that comes from the biological and psychological transformations, and from the demands of the social context too, teenagers have to create solid and appropriate beliefs about their own abilities of handling these changes, they have to make the required commitment for reconciling the achievements and the goals, in order to efficiently communicate and negotiate with adults and friends (Caprara & Scabini, 2000), and the teachers and psychologists have to consider these things in the learning and training process of teenagers.

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