

The effectiveness of the relaxation techniques, in stress reduction and optimization strategies for coping in teenagers

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Abstract

The present research set out to assess the level of stress present among teenagers, studying the coping strategies they implement in their lives and how relaxation techniques show efficiency in decreasing the level of stress. There were investigated, using questionnaires, the self-perceived stress level and coping strategies, among 60 high school students with an average age of 16 and 17-year-old, in Bucharest. The participants were divided into two groups: the experimental group (N=30; Mage = 16.44; SD = 2.503) and the control group (N=30; Mage = 16.48; SD = 2.488).

The participants in the experimental group were applied to eight sessions of relaxation, of 20 minutes each. After 30 days from the first test, the self-perceived level of stress was investigated again along with the coping strategic approach, among the 60 participants, keeping the conditions of the design research with the two groups, respectively the experimental group and the control group.

The results revealed that the stress level among the participants in the experimental group, decreased after applying the techniques of relaxation.

Keywords: *adolescence, stress, coping strategies, relaxation, cognitive level, emotional level*

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I. INTRODUCTION

Adolescence is the period aged between 12-20 years, characterized by Erikson (1963) as a “psychic marathon, absolutely necessary to pass into the adult life”. It is the transitional period between childhood and adulthood, starting with the biological level and ending at the cultural level (Conger and Peterson, 1984). An important problem of the adolescence is the disengagement from the parents and acquiring autonomy, leading to attitudes and behaviors that are specific to the years of childhood, self centered, involving protection on the part of the adults. The transition from the “protected” status to the “protector” leads to an ambivalent evolution of affectiveness, generator of conflicts, but necessary in order to obtain autonomy/independence, necessary in the process of becoming a mature adult (Greenberger, 1984).

According to Erikson (1968), the most important task of adolescence is dealing with the crisis of identity versus identity confusion, or the identity versus role confusion, with the aim of becoming a unique adult, with a coherent sense of self, which has a valuable role within the society. Adolescence is that period of life necessary not just for the experimentation of the specific strategies that prove to be effective in tackling the difficulties related to the tasks of development, but also for the formation of a so-called style of coping, i.e. for the acquisition of general behavioral strategies for successfully exceeding the obstacles, regardless of the specifics, the novelty and difficulty of the issue (Patterson & McCubbin, 1987). Hindrances to which reference is made actually represent the specific stress agents.

Seiffge-Krenke and Shulman (1993) emphasize the interdependence of the process of coping and stress, as a condition of psychological dissatisfaction, which manifests itself when the teenager assesses the present situation in which he lies, as one which enacts problems that exceed his capacities. In the coping strategies of stress, at teenagers, the relations with family, friends and the congeners have a very important role, and their contribution is different, depending on the genre, but the close relations, although crucial in the management of stress, have a changeable contribution, depending on context (Shulman, 1993).

The changes, the social and environmental events, normative and predictable, or unexpected, random, can be founded as stress factors affecting teenagers. The most significant stress factors are: the physical changes influencing the perception of both their own body, as well as the expectations and behaviors of others (Blyth, Simmons & Zakin, 1985); school transitions, from mid-school, to high school and from high school, to college that bring a new environment and new school hierarchies.

In addition to stress, health symptoms appear in the first year of College (Alfeld-Liro & Sigelman, 1998; Andrews & Wilding, 2004; Fisher & Hood, 1988; Wintre & Yaffe, 2000). According to the theory of overload, the teenager is undergoing many stress factors (school

systems with more rules and restrictions, increased expectations on the part of teachers in achieving performance, more stringent scoring criteria, less attention from the teachers, colleagues and old friends separation) over which he cannot act, not having appropriate adaptation strategies (Simmons, 1987).

Other stress factors present in the life of teenagers are the family conflicts, moving into a new community, starting a sentimental relation (Simmons & Blyth, 1987), the break-up of romantic partners (Larson, Clore & Wood, 1999), outcomes/unsatisfactory academic, financial or other difficulties or pressure from the PCB congeners. At the same time the existence of health problems or of the family members together with the pressure from school teachers and vocational pressure elections are considered important stress factors to teens.

The psychological reactions to stress on short term may show on four levels, which are influencing each other:

- At the cognitive level, stress affects the processes of perception and judgments: locks of thinking and memory disorders, repetitive thoughts, cuds, nightmares occurrence, limiting horizons of thought due to a diminished perception. At the same time, rumination is a response to stress (Coffman, Martell, Dimidjian, Gallop, & Hollon, 2007).

- At the emotional level, the feelings, the moods and the mental state are affected by malaise, changes in disposition, uncertainty, fear, irritability, nervousness, negative attitudes, feelings of helplessness, depression, apathy, aggression (Buchanan, & Lovallo, 2001).

- At the muscular level, different reactions are carried out in the area of muscles that damage the voluntary control of the muscles. There appear: back pains, headaches, neck muscles strain, teeth gnashing, and continuous movement of the feet (Kim, Conger, Elder, & Lorenz, 2003).

- At the physiological level, we may find: abdominal pain localized in the epigastria, accompanied by a state of nausea, vomiting and diarrhea, the sensation of lump in the throat, palpitations, disturbances of the heart rate, dry mouth, hand sweats, dizziness, soaked knees, and so on (Hardy, & Smith, 1988).

Reactions to stress, in the long run are as follows: reduction of the general level of health, indifference, melancholy, insomnia, over-activity, matched by anxiety and fear, headache, reduced stress hormones, poor blood circulation, muscle tension, tremor, nervousness, sexual problems, depression, exhaustion and reduction of social relationships. More related behaviors may appear like the ones described, such as nail biting, excessive consumption of alcohol, drugs and medicines, increase of appetite, etc. Frankenhauser (1983, cited by O'Leary, 1992), believes that there are gender differences in stress responses, with a higher rate of replies in women than in men, but with a more rapid return to the baseline.

A research carried out in 2013 which was attended by 1950 adults and 1018 adolescents, aged 13-17 years, has shown a number of results related to the presence and level of stress among

the participants, important in identification of coping strategies resulting from the fact that both American adults and teenagers have shown great levels of stress in recent years in their lives, the average value indicated by the adolescents, being 5.8 in relation to 5.1, in case of the adults; 83% of the teenagers have shown that school represents for them a major source of stress; 59% of the teenagers have shown time control during their activities, as a significant factor in the perceived level of stress; 29% of the teenagers have shown postponing, generally a strategy of stress management (Seiffge-Krenke, 2013).

Another research carried out in 2014 (Sharma, & Rush, 2014) explored the effects of mindfulness technique on the well-being condition, measuring: the stress levels charged and the depression, emotions, creative thinking and the correlation between mindfulness (kindness) loving (abbreviated MLK) and the perceived stress among the 106 American participants, with South Asian origin, with the average age of 28.15 years. The participants, students at the University of Michigan, were recruited by distributing leaflets and through social networks and online questionnaires. The following results were obtained: The perceived stress and depression were negatively correlated with the mindfulness technique, (kindness) loving (MLK), the participants with high levels of MLK, getting reduced levels of the perceived stress and depression; There are different correlations between those two analyzed factors of the emotional adjustment, namely the re-evaluation and the suppression of stress, hence: reevaluation positively correlates with MLK, while there is no correlation between stress and suppression of MLK; Mindfulness technique is positively correlated with the psychological well being.

Glasscock, Andersen, Labriola, Rasmussen, and Hansen (2013) examined the extent to which there existed social influences in the perceived stress, negative life events and coping strategies among the Danish teenagers and if the life events and the respective coping strategies were able to explain the association between the socioeconomic status (SES) and the perceived stress. The participants in number of 3054 teenagers of 14-15 years (83% response rate) have been questioned in connection with the existence and level of the perceived stress, their life events and coping strategies used, and other information related to the socio-economic status, as for example: the level of education of the parents, the monthly income and other variables were collected from the official national records.

The results have shown the following: the low level of education of the parents and the low level of the family income, by default a low SES, have been associated with high levels of stress (ignoring the sex of the pupil participant to the survey). In the case of adolescent girls, in assessing SES, powerful social influences have been closely linked to the level of education of the parents, while for teenagers, the income level of the family, and so on.

Relaxation is a psycho-therapeutic and auto formative technique, scientifically based, pursuing the achievement of a muscle and nerve de-contraction, having as effect an efficient re-

pause, saving energy, increasing physical and mental resistance to stress to the organism and decreasing the negative effects of the already installed stress (Holdevici, & Crăciun, 2013). Being initially put in place by Jacobson (1938), relaxation is a technique that formed as part of a cognitive therapy. Being subsequently developed by Wolpe (1984), relaxation has been used in behavioral therapy as a part of desensitization. Currently, relaxation is a technique that is part of cognitive-behavioral therapy used to treat anxiety disorders, somatic disorders and stress (Holdevici, & Crăciun, 2013).

Rasid and Parish (1998) think that relaxation and muscle relaxation techniques may decrease the degree of anxiety among teenagers. Zaichkowsky and Zaichkowsky (1984) had the following opinion: children about nine years old can learn control of stress and anxiety, within a period of six weeks, with the help of progressive muscle relaxation techniques and guided imagery, controlling the condition of psychological stimulation (heart rate, breathing and body temperature), which leads to a decrease in the level of anxiety. Suggestion and autosuggestion, basic mechanisms of relaxation, are directly responsible for both the production and maintenance of a state of relaxation and self-regulation and influencing human behavior, as well as autonomous methods of relaxation.

During the meetings of relaxation, the proper mental training can be practiced, the technique of psychotherapy and self-adjusting of the psychiatric conditions. It consists of exercises to concentrate attention and amending of the representations of the subject, during the period in which he practices relaxation. Originally used for increasing efficiency and driving execution skills to athletes, it was extended to recovery, until the entire capacity of these skills, after accidents or diseases and to familiarize athletes with competition through their desensitization in relation to stressful events (Holdevici and Vasilescu, 1988).

II. METHOD

1. The objectives and participants

The main objective of the research was to identify the perceived stress levels among the teenagers participating in the research, namely high school students. Another goal was the study of the level of awareness of coping strategies of adolescents and the knowledge of the extent to which the use of relaxation techniques is helpful in lessening the stress level perceived by the teenager's participants.

The research had as its starting point two ideas, namely that teenagers who live and study in the city are subject to a high level of stress; the second was that relaxation techniques, practiced over the course of several weeks, can reduce the perceived level of stress in the case of teenagers. A number of 60 young participants of Romanian nationality, teenagers aged 16 and 17 years,

students at a high school in Bucharest were divided into two groups: the experimental group ($N=30$; $M_{age} = 16.44$; $SD = 2.503$) and the control group ($N=30$; $M_{age} = 16.48$; $SD = 2.488$).

From the perspective of genre, in both the control and experimental groups, out of the number of 30 participants are represented equally, 15 teenage girls and 15 teenage boys. They attend the same high school in Bucharest, and they are all in the 12th form.

2. Instruments

2.1. The Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983) is a questionnaire with self-administration, containing 10 questions. The PSS is a measure of the degree to which situations in one's life appraised as stressful (Cohen et al., 1983).

2.2. The Strategic Approach to Coping Scale is a multidimensional self-report questionnaire, developed by Stevan E. Hobfoll in 1994, with 52 items, grouped in the new scale of assessment of behavioral coping strategies. It is used by psychologists and clinicians, psychotherapists and school psychologists. It was built to identify the coping strategies in the context of social behavior, used by someone, after experiencing certain negative situations and events.

The SACS is based on the multi-axial model of coping (Monnier, Hobfoll, Dunahoo, Hulsizer, & Johnson, 1998) that takes both individualistic and communal aspects of coping into account and moves beyond the individualistic perspective, considering social aspects of coping as well. In this study it was used the Romanian version translated and validated by Budău, Ciucă, Miclea and Albu (2011).

III. RESULTS AND DISCUSSION

The reaction against stressful situations and stress will always be a subjective outcome determined from the psychological point of view. This research contributes to the argumentation of the fact that relaxation techniques constitute an effective method to reduce stress in teenagers.

These claims are supported by the difference between the level of the perceived stress recorded by the experimental group in the pre-test phase and the registered one in the post-test. The obtained results support the general hypothesis of this research, according to which "relaxation techniques help reduce the stress levels perceived by teenagers".

After the subjects' attending to eight sessions, we note that the average level of perception of stress from the pre-test phase ($M=24.47$, $SD=3.126$) and the average level of stress scores from the post-test phase ($M=18.90$, $SD=2.857$) differ significantly ($t=9.075$, $DF=29$, two-tailed $p < 0.001$).

The second confirmation of the effectiveness of this method, of the relaxation techniques, comes from the control group, who did not attend the meetings. This group showed a significant difference between the perceived stress levels recorded in the pre-test phase, compared to the level recorded in the post-test, thus confirming our hypothesis.

We can infer now that including the relaxation techniques in a therapeutic plan of stress reduction will be guaranteed and will support the effectiveness of such interventions to high school teens.

Further, comparing the averages obtained in the pre-test phase with averages obtained in the test phase, we may observe that the instinctive action subscales ($M= 2.700$; $SD = 2.562$; $t(29) = 5.773$; two-tailed sig. $p < 0.001$); antisocial action ($M= 2.367$; $SD = 4.537$; $t(29) = 2.857$; two-tailed sig. $p < 0.05$) and aggressive action ($M= 1.833$; $SD = 4.778$; $t(29) = 2.101$; two-tailed sig. $p < 0.05$) records significant differences in terms of statistical point of view.

In case of prudent action subscales ($M= 1.100$; $SD = 3.305$; $t(29) = 1.823$; two-tailed sig. $p > 0.05$), avoidness ($M= 2.167$; $SD = 7.702$; $t(29) = 1.541$; two-tailed sig. $p > 0.05$) and indirect action ($M= 1.167$; $SD = 3.696$; $t(29) = 1.729$; two-tailed sig. $p > 0.05$) no significant differences were recorded from the statistic point of view.

Thus we can say that hypothesis 1 [Application of the relaxation techniques contributes to the lessening of the avoidance behavior, antisocial, indirectly, based on instinctive caution, and the rampant among the participant teenagers] is confirmed only in the case of the 3 subscales - instinctive action, antisocial action and aggressive action - that registered significant differences in terms of downside statistical averages of the scores registered by the experimental group subjects. In the case of prudent avoidance of the subscales action and indirect action, there were no significant differences, the results not supporting this part of the hypothesis.

In regard to the hypothesis 2: [Application of the relaxation techniques contribute to improving the assertive behavior], by analyzing and comparing the differences between the two applications of the scale of the strategic approach to coping to improve the experimental group, we noted that the average of the assertive subscale action ($M=-2.867$; $SD= 5.606$; $t(29) = -2.801$) having a level of significance (two-tailed) $p < 0.05$, indicates a significant difference between the pre-test and post-test application. The subscale social networking ($M= -3.033$; $SD= 6.150$; $t(29) = -2.701$; two-tailed sig. $p < 0.05$) and seeking social support ($M= -3.767$; $SD= 7.601$; $t(29) = -2.714$; two-tailed sig. $p < 0.05$) recorded themselves significant differences in terms of statistics, to the extent of raising the average of the scores obtained in the post-test phase, compared to the averages obtained pre-test, confirming thus the second specific hypothesis of the research.

IV. CONCLUSIONS

Studies show that a high level of perceived stress will be felt in the psychic plane by a person through a series of dis-adaptive reactions such as anxiety, panic, inability to concentrate, incoherent ideas and formulations, indecision or hasty decisions (Holdevici & Crăciun, 2015). Should stress intensity be moderate, it could lead to favorable performance consequences (Aldwin, Levenson, & Spiro, 1994; Smith, Shelley, Dalen, Wiggins, Tooley, & Bernard, 2008). Young people's impatience to start a sport for example, or experiencing some slight strain, put the body in the best condition for confrontation, appropriately mobilizing the physical and psychological resources.

From another point of view, the problem does not lie in completely eliminating stress but to turn it into a factor of optimizing the state by acting the self-control process. The main methods are: positive thinking, relaxation, autosuggestion and mental self-programming through routed imagination (Holdevici, 2011; Crăciun & Crăciun, 2013).

Limits of the study

The main limit of this study comes from the small number of participants to the research. It is desirable that, in the future, for a better presentation of the results of the research, the sample to be composed of a larger number of people. Another limit comes from the fact that all subjects who participated in this study are students at a high school from Bucharest. Using the relaxation techniques was a novelty among these participants, but we can say that, in some way, even if at first they had some fears, they became familiar with the later intervention set. It is interesting to study in the future how these relaxation techniques are received also by other segments of the population.

Future research directions

Some of the directions of future research may be those that include a more complex design with a longitudinal ongoing. At the same time it would be necessary to apply some specialized tools to investigate and other variables such as the personality traits of the subjects included in the research approach.

Another future direction is replicating of such a study on the conditions of building a combined interventions between relaxation techniques, techniques specific to the cognitive-behavioral therapy and mindfulness approaches.

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