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Stress Resistance as a Diminution Factor of Inclination to Addictive Behavior in Adolescents

Otilia STAMATIN[1], Larisa SINITARU[2]*

Abstract

The given work substantiates the idea, that the age of adolescence is characterized by emotional instability, weak stress resistance, personal immaturity, combined with the desire to be accepted by the others, the fact very often causing deviant and later on addictive forms of behavior. Taking into consideration the connection between the adolescent stress resistance and their inclination to addictive behavior we worked out and tested the program aimed at lowering the dependence index through the raise of stress resistance level in adolescents. The analysis of the data received showed that the majority of adolescents aged 13-15 demonstrate low level of stress resistance (62.2%). Girls are less stress resistant than boys (74, 4 % and 52, 7% respectively). The results of the method on revealing the dependence inclination showed that the most problematic are the 14 year old adolescents. Their index of food, alcohol, tv and computer dependence is the higher. Compared with girls, boys demonstrate greater behavioral dependences both on medium and high levels. The statistical analysis confirmed the connection between adolescent stress resistance and their inclination to addictive behavior. That made possible to work out and test the program (its principles and essence are stated in brief in the article) aimed at the raise of stress resistance level thus lowering the inclination to addictive behavior. The comparative analysis of the data received in the test and experimental groups before and after the program confirmed our assumption about the connection between two mentioned above variables and the efficiency of the intervention worked out by us and aimed at the lowering the level of the addictive behavior.

Keywords: *stress resistance; forms of deviant behavior, inclination to addictive behavior.*

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1. Introduction

Nowadays alongside the ecological problems the addictive behavior becomes a real problem of the ecology of personality resources, without them the full-fledged functioning and further development of the society as a whole is impossible. Global changes of the modern society lead to the break of behavioral stereotypes, give raise to a lot of stress situations, their way out requires from people skills to quickly adapt to the changing social conditions, ability to find constructive ways of solving the problems that appear. Stressful situations, fear of desperation, incapability to cope with problems, all these cause the intention to go away from reality. In search of means of defense from tension, discomfort people of the kind often turn to addictive behavior strategies, trying to artificially change their psychological state, thus obtaining the illusion of safety. The adolescents passing through the crisis period of their development are more often subjected to such kind of behavior.

2. Problem Statement

In our opinion under these conditions special attention should be paid to the issues of addictive behavior prophylaxis especially in the adolescent age because this age as noted by Lazarus [3], Melnik Sh. [5] is characterized by the emotional instability, great psychological tension, weak stress resistance. The adolescents are alarmed and worried about the puberty personality changes and psychic functioning. Melnik Sh. [5] points out that they have weak capabilities to navigate in the surroundings, often reacting wrong to the external stimuli, cannot communicate with the people that matter and cannot understand what the society wants from them. As a result according to Rean A.A. [10] teenagers being in permanent tension unconsciously play wrong forms of deviant behavior which after being fixed, lead to steady addictions.

But together with complicated and sometimes unpredictable peculiarities adolescent age forms as Orlov, J.M. [6], Sobkin V.S [9] mention such important qualities as wanting to know oneself and others, search of identity, desire to assert oneself, formation of moral beliefs and reflection. Resorting to these meaningful personality qualities- that are the basis for forming stress resistance- could become in our opinion, the significant stage in the prophylaxis of the addictive behavior.

3. Research Questions/Aims of the research

In our work we tried to establish the link between stress resistance and inclination to addictive behavior in adolescents; also taking into consideration the experimental data we tried to plan and test the intervention program on reducing the inclination to addictive behavior.

4. Research Methods

The research was held in the theoretical lyceum A. Pushkin, Ungheni, Republic of Moldova. The selection number of tested subjects was 98, aged 13-15 years old. We studied the connection between the level of stress resistance and inclination to addictive behavior in adolescents by means of methodology "Stress resistance and social adaptation" by Holmes and Rahe (adapted variant for adolescents) [12] and "The study of the general inclination to addictions" by G.V. Lozovaia [4].

The criteria for test subjects selection have become: age, type of institution, free will for the investigation. At all the stages of the research the test subjects have been explained all aspects referring their rights for the participation as well as their exit from it.

At the first stage of the research done by means of the method "Stress resistance and social adaptation" by Holmes and Rahe (adapted variant for adolescents) we determined the level of stress resistance in all adolescents, levels of stress resistance regarding the students' age, also the indicator of stress resistance depending on gender identity.

At the second stage of the research, we studied the addictive behavior of the adolescents by means of methodology on common inclination to addiction by G.V. Lozovaia. We fixed the degree of adolescent inclination to addictive behavior, their inclination to different types of addictions taking into account their age, also gender aspect of inclination to addiction.

The statistical processing of the data received by us was carried out with Mann-Whitney's U-criterion taken into account.

The Linear correlation of Pearson was used to confirm our hypothesis on the connection between stress resistance and the inclination to addictive forms of behavior in adolescents.

5. Findings

At the first stage of the research using the method "Stress resistance and social adaptation" by Holmes and Rahe (adapted variant for adolescents) we determined the level of stress resistance fo all adolescents, levels of stress resistance regarding the students' age, also the indicator of stress resistance depending on gender identity [7].

Let us consider the results of common indicators according to the levels of stress resistance in adolescents throughout the whole number of students' selection.

Table 1-1. Common indicators according to the levels of stress resistance (%)

High level	Threshold level	Low level
10	27,8	62,2

The students demonstrate the highest results at the low level of stress resistance- 62%, 2 that is 6 times more than the results at the high level- 10 % (62,2% and 10% respectively p=.06) and exceeds more than 2 times the results of the threshold level, that makes 27,8% of the test subjects (62,2% and 27,8% respectively p=.0001). Further we'll try to analyze the adolescents 'results taking into account three age groups: the first group- 13 year old adolescents, the second group – the 14 year old adolescents and the third group – the 15 year old adolescents.

Table 2-1. The indicators of stress resistance based on adolescents' age (%)

Age	High level	Threshold level	Low level
13	11,5	38,5	50
14	10,5	23,7	67,6
15	8,8	23,5	65,8

We see that the problem level being the low level of stress resistance goes up from 50% in 13 year old students to 67,6% in 14 year old students

and then the level goes a little down - 65,8% of 15 year old test subjects. Consequently, the 14 year old adolescents are less stress resistant. The highest indicators of threshold level of stress resistance are in the 13 year old adolescents- 38,5%. The results of the adolescents in 14-15 year old groups are practically similar: 23,7% and 23,5% of the test subjects. Comparing the results of the high level of stress resistance one can say that the 13 year old adolescents are the most stress resistant – 11,5% in comparison with other two groups: 10,5% of 14 year old students and 8,8% of 15 year old students.

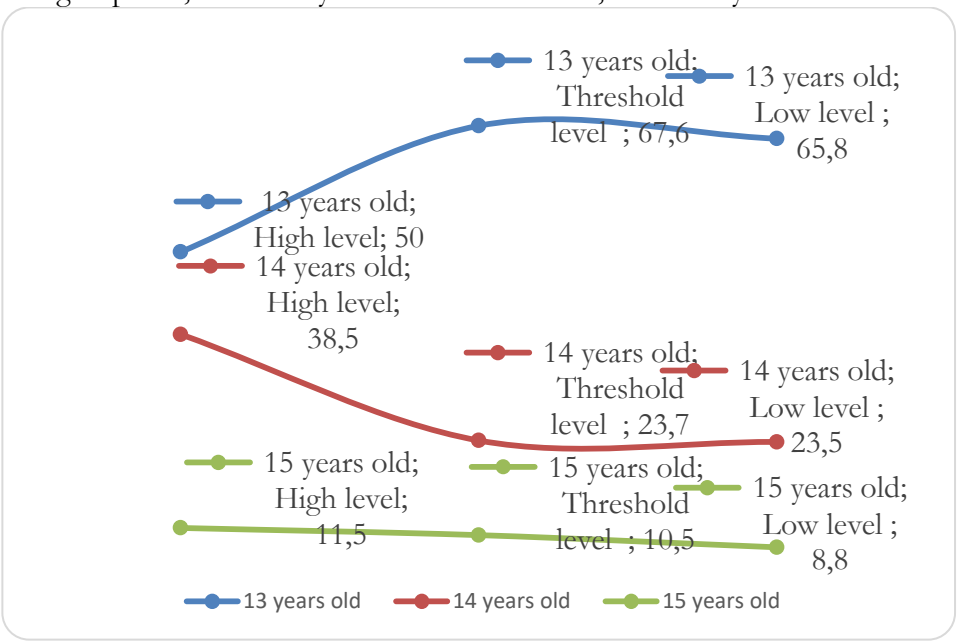

Figure 1. Levels of stress resistance in adolescents of different age groups

Analysis of the data received on gender identity

Table 3-1. Stress resistance in adolescence with the reference to their gender identity (%)

Gender	High level	Threshold level	Low level
Masculine	16,4	30,9	52,7
Feminine	2,3	23,3	74,4

Comparing stress resistance indicators according to gender identity, we see that the masculine gender representatives have higher results at high and threshold levels than the feminine representatives. The boys' result at high level is 16,4%, while the girls' result is -2,3% of all the test subjects, that is 7 times less than the boys' indicator (p =.03). They also demonstrate

higher results at threshold level: 30,9% while the girls – 23,3% (p =.007). The girls' highest indicator at low level of stress resistance is 74, 4%, while the boys' result is 52,7% (p =.0001). The analysis done makes it possible to come to the following conclusion: the female adolescents are less stress resistant than the male representatives.

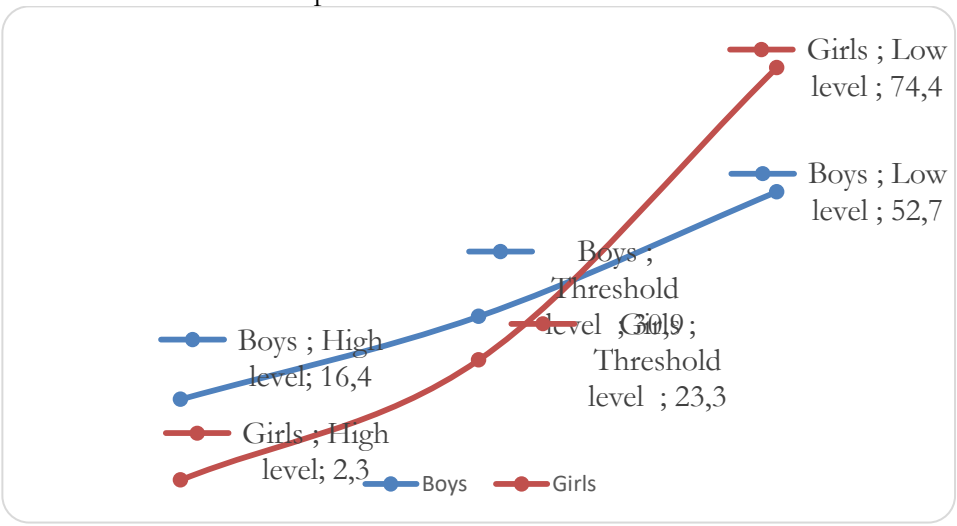

Figure 2. Gender distribution according to the levels of stress resistance

Statistical processing of the data according to the scale "Stress resistance and social adaptation" by Holmes and Rahe (adapted variant for adolescents) and the Mann- Whitney U-criterion didn't reveal any significant difference in different age groups. But the stress resistance indicators between female and male representatives are in the zone of significance: girls are less stress resistant than boys [7].

At the second stage of the research we used scale on common inclination to addiction by G.V. Lozovaia [4] and studied the addictive behavior of the adolescents. We fixed the degree of adolescent inclination to addictive behavior, their inclination to different types of addictions taking into account their age, also gender aspect of inclination to addiction.

Table 1-2. The indicators of inclination to addiction in 13-15 year old adolescents (%)

Degree of inclination	13 years old	14 years old	15 years old
High	31	32	15
Medium	57	63	62
Low	12	5	23

The analysis of the data demonstrates that by the age of 15 the high inclination to addiction is reduced by half in our test subjects-15% ,in comparison with 13 year old adolescents-31% and 14 year old- 32% of test subjects. The threshold level indicators in all age groups remain practically unchanged: a little bit lower, they are in 13 year old group- 57%. Other two groups show practically similar results: 14 year old adolescents – 63% and 15 year old – 62% of the test subjects. The results of low inclination to addiction present a certain interest. Here we can observe a trend of increase in number of the test subjects in the third age group: 15 year old- 23%, in comparison with the 13 year old teenagers-12% and 14 year old -5%.

Thus by the age of 15 we can observe a declining trend of inclination to addictions at the high level and the trend of increase in number of adolescents whose inclination to addictions is at the low level.

The most problematic age group in the terms of inclination to addictions is the 14 year old group of adolescents, as the adolescents of the given group show the highest indicators at the high level of inclination to addictions- 32% and at the medium level -63% of the test subjects.

For the better illustration of the data received, let us look at the graphic image.

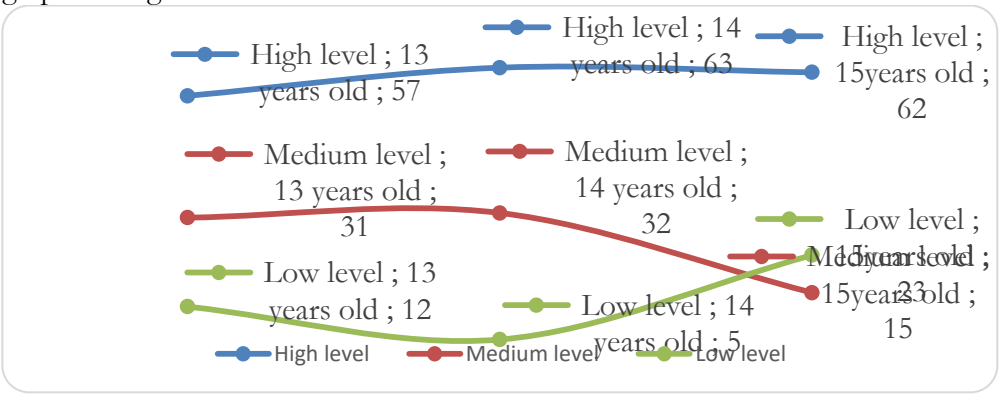

Figure 3. Levels of inclination to addictions in 13-15 year old adolescents

Table 2-2. The levels of adolescent inclination to different kinds of addictive behavior %

Degree of inclination to addictions	Alcohol	TV	Love	game	sex relationships	food	religion	labor	pharmaceuticals	PC	smoking	healthy way of life	drugs
High	8	13	40	1	4,1	29	6	6	5	5	1	33	1
Mediu	16	41	48	20	23,5	50	33	61	26	46	2	53	7
Low	76	46	12	79	72,4	21	61	33	69	49	97	14	92

We have traced the inclination to 13 kinds of addictions in our test subjects: alcohol, TV, love, game, sexual relationships, food, religion, labor, pharmaceuticals, PC, smoking, healthy way of life, drugs. The highest indicators are: addiction to love – 40% of adolescents, healthy way of life-33%, and inclination to food addiction – 29%. We have observed an interesting fact that at the medium level the inclination to almost all kinds of addictions increases and especially in addictions mentioned above: addiction to love: from 40% to 48% of adolescents; addiction to the healthy way of life: from 33% to 53% of the test subjects; addiction to food: from 29% to 50% of adolescents. At the given level, we see high indicators in a number of addictions: labor addiction – 61%; PC – 46%; TV -41% of adolescents.

Characterizing the low level of adolescent addictions we found out that our test subjects demonstrate high results at this level in their inclination to smoking: 97% and 92% of the test subjects in inclination to drug addiction, that is they emphasized that they do not have any inclination to given addictions. In practice, however we know, that a lot of adolescents smoke and try to use drugs. It can be accounted for the fact that our country fights smoking and drug-using. We suppose that adolescents being conscious of the social unacceptability of these addictions consciously marked their problem positions, which exist quite evidently.

Table 3-2. The indicators of inclination to addiction in male adolescents %

Degree of inclination to addictions	Alcohol	TV	Love	game	sex relationships	food	religion	labor	pharmaceuticals	PC	smoking	healthy way of life	drugs
High	7	11	11	25	7	25	4	2	0	7	2	25	2
Mediu	20	51	40	58	33	53	38	60	22	53	4	55	11
Low	73	38	49	16	60	27	58	38	78	40	95	20	87

Analysis of the data received on gender identity

The highest indicators of inclination to addictions in boys are those of game, food and healthy way of life addictions - per 25% of the test subjects.

At the medium level, the indicators of the addictions mentioned above go up more than twice. For example, inclination to game addiction rises from 25% to 58% of the test subjects; to healthy way of life from 25% to 55% of test subjects. The highest indicators at the given level are inclinations to labor addiction -60% and to game addiction- 58% of the test subjects. The highest indicators at the low level - are the inclination to smoking (95% of the test subjects) and to drugs (87% of the test subjects). As we said previously, the data indicate that the adolescents try to conceal their inclination to these addictions.

Table 4-2. The indicators of inclination to addiction in female adolescents

Degree of inclination to addictions	Alcohol	TV	Love	game	sex relationships	food	religion	labor	pharmaceuticals	PC	smoking	healthy way of life	drugs
High	9	16	56	0	0	37	9	12	12	2	0	67	0
Med	12	44	37	5	12	51	26	60	30	35	0	26	2
Low	79	40	7	95	88	12	65	28	58	63	100	7	98

Girls more than boys show inclination to love (56% of girls and 11% of boys); to the healthy way of life (67% of girls and 25% of boys); their indicators of food addiction are higher. Male representatives' results at the medium level in all kinds of addictions are higher, than those of girls. The results of inclination to work addiction are similar - per 60% of the test subjects. Girls' results of their inclination to pharmaceutical addiction at the medium level are higher (35% of girls and 22% of boys). Both adolescent girls and adolescent boys demonstrated inclination neither to smoking nor to drugs: low level of inclination of the test subjects (100% of the test subjects - smoking and 98%- drugs).

6. Discussion

Summarizing various authors' views on the nature of stress resistance in modern scientific literature, we can say that the given phenomenon is considered from the psycho-physiological and functional positions. For example, Selye G. [13], characterizes stress resistance as the capacity of the organism to respond adequately to any negative impact of the environment. Abolin L.M [1], Lazarus R. [6] think that stress resistance is a personality characteristics influencing productivity (successfulness) of activity. Rather interesting is the point of view of Kitaev – Smyk L.A. [4], who defines stress resistance as an integrative personality quality, characterized by cooperation of emotional, volitional, intellectual and motivational components of psychic activity of an individual Our analysis data made it possible to work out our own research position on stress resistance as a personality quality and to study the levels of its development.

The research held by us made it possible to work out and test the program of intervention work with the test subjects aiming at raising their stress resistance level - a factor that will reduce the adolescent inclination to addictive behavior.

The training program "How to raise stress resistance and live without addictions" brought positive results, that is: raise of stress resistance and the decline in addictions indicators. To assert positive changes we have done the comparative analysis using statistically processed results. The comparative analysis of the first and second diagnostics in the experimental group based on the methodology of studying stress resistance according to Holmes and Rahe is in the zone of significance what speaks for the sufficient differences in stress resistance of experimental group before and after the training.

We compared the results of stress resistance in the Experimental group after the training**.** The comparative analysis demonstrated after trainings that the stress resistance results in the experimental group differ from the results in the Test group, which didn't have trainings on raising the stress resistance level.

The comparative analysis of the repeated diagnostics in the Experimental and Test groups with the reference to the methodology on the study of common inclination to addictions by G.V. Lozovaia confirms the meaningful difference in results, with the level of significance more than 0,05.

Thus, we can come to the conclusion, that the training program on raising the level of stress resistance gave positive dynamics: the quality indicators of stress resistance have significantly increased and the indicators of inclination to addictions have declined.

We managed training process to create positive emotional atmosphere, also we studied emotional state of each adolescent. After the training the participants gave a positive response about the training, underlining the changes they have undergone owing to the intervention training.

7. Conclusions

Thus, the analysis of the results of stress resistance research makes it possible to draw the following conclusion: the majority of 13-15 year old adolescents demonstrate low level of stress resistance: 62, 2% of the test subjects. The given level of stress resistance has a certain dynamics. The indicators go up from 50% of the 13 year old students to 67, 6% of 14 year old students, and then go insignificantly down to 65,8% of 15 year old test subjects. Consequently the 14 year old adolescents are less stress resistant. The female adolescents are less stress resistant than the male representatives.

The hypothesis put forward by us about the connection between stress resistance and inclination to addictive forms of behavior in adolescents was confirmed. We discovered an inverse correlation: the lower stress resistance- the higher inclination to addictions.

The training program "How to raise stress resistance and live without addictions" brought positive results, that is: raise of stress resistance and the decline in addictions indicators.

The results obtained in the course of the theoretical, diagnostic and forming research in our opinion have certain significance for the further study of the correlation between stress resistance and addictive behavior, for

prophylaxis and intervention work on reducing the level of adolescent inclination to addictions.

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