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THE RELATIONSHIP BETWEEN THE MANIFESTATION OF RESILIENCE AND THE SEVERITY OF MALADAPTIVE SCHEMES IN UNIVERSITY AGE

Kulikova Tatyana Ivanovna

PhD (Psychology), Associate Professor Department of Psychology and Pedagogics
Tula State Lev Tolstoy Pedagogical University, 125 Lenin ave., Tula, Russia

Abstract.

Hardiness is one of the qualities that allow students to adequately respond to changes and develop, i.e. to be more effective in modern conditions of learning in higher education. The purpose of the study is to test and substantiate the connection between resilience and maladaptive schemas in students of different ages. Studying of the correlation between resilience and maladaptive schemas among students of different ages has been conducted on a sample of Tula State Lev Tolstoy Pedagogical University students, aged 18 to 24, in the number of 67 people. As diagnostic material, the study uses Maddi's Hardiness Survey; Young Schema Questionnaire "YSQ-S3R". Methods of mathematical statistics include Pearson correlation coefficient (PCC); principal component analysis (PCA). Correlation analysis has revealed the presence of strong inverse correlations between the resilience with maladaptive schemas "Vulnerability to Harm or Illness" and "Mistrust", "Subjugation", "Failure", "Unrelenting Standards", "Dependence/Incompetence" and "Defectiveness". The studying has shown that hardiness is a dynamic process caused by the age-psychological characteristics of an individual. This is evidenced by differences in the structure of hardiness in different age groups, as well as an increase in the level of hardiness from youth to youth. Understanding the detailed content of the process of becoming hardiness contributes to the purposefulness of developmental and psychoprophylactic work.

Keywords: hardiness, maladaptive schemas, students, correlation analysis.

Introduction

One of the qualities that allow students to adequately respond to changes and develop, i.e. to be more effective in modern conditions of higher education, is hardiness. Today, psychological conditions for the development of hardiness as a personal resource are being actively studied. The UNESCO Declaration "Education of the 21st Century" openly states that the main value of the new culture should be the stable development of person and society, and the main goal of education is the formation of a viable personality [9]. Understanding that hardiness as one of the integral characteristics of a personality, which is a system of knowledge about oneself, about the world, about relationships with the world, allowing a person to resist the negative influences of the environment, more successfully overcome the challenges of the VUCA world, turn problematic situations into new opportunities, and determined the topic of our research, e.g. the relationship of hardiness and maladaptive schemas in students of different age groups.

According to S. Maddi, hardiness is something that contributes to the maintenance of physical, mental and social health, an attitude that gives life value and meaning in any circumstances [16]. D.A. Leontiev considers the phenomenon of resilience in the context of the concept of personal potential and defines resilience as an integrative characteristic of a person responsible for success in overcoming various life difficulties by a person [15]. A.A. Klimov [13] defines hardiness as a key resource for transforming life events into new opportunities despite external pressures. M.V. Loginova [16], A.N. Fominova [9], M.A. Frizen [10], Nash C. [18] understand hardiness as the ability of a person to withstand a stressful situation while maintaining internal balance. L.V. Karapetyan [11] explores the adaptive capabilities of the individual as

determinants of emotional and personal well-being/distress.

The analysis of studies devoted to the development of personal hardiness in student age shows the researchers's interest mainly in studying the relationship of hardiness with individual personal characteristics [8; 17]. Much less work is devoted to the study of hardiness in the context of early maladaptive schemas and modes of their functioning. According to E.N. Bogdanov [3], early maladaptive schemas can influence the specifics of a person's experiences and one's behaviour in difficult life situations. The more pronounced various maladaptive schemas are in people, the lower the level of their adaptability is.

Under the influence of similar conditions, different individuals may form similar beliefs and behavioral patterns, which J. Young [21] called maladaptive schemas. The maladaptive schema represents a symptom complex of rigid beliefs, associated emotional states and behavioral patterns, the high degree of severity of which indicates the presence of a personality disorder [4; 7; 1; 6].

E.S. Akarachkova [2] shares this point of view, believing that the adaptive mechanisms of the psyche are a hierarchical structure, the formation of which is laid at the early stages of embryogenesis. Genetic and biochemical factors specifically affect the formation of brain structures responsible for adaptation to stress – the amygdala, hippocampus, hypothalamus, pituitary gland. Some authors argue that the basis of maladaptive mechanisms are innate biological and psychophysiological properties that create the basis and conditions for the interaction of these properties with the surrounding world [12; 20].

Adaptation allows a person to stand in difficult unpredictable modern living conditions. Activation of various forms of adaptive processes is called coping, or defensive coping behaviour. According to R. Lazarus and S. Folkman [14], coping with life difficulties is a dynamic cognitive and behavioral effort of a person that occurs due to the management of certain external and internal requirements and is assessed as causing difficulties or exceeding their resources.

Literature review on the phenomenon of personality hardiness by international and domestic scholars actualizes the need to study the adaptive capabilities of young people to the conditions of rapidly changing Russian reality, especially at the stage of mastering the future profession.

We have assumed that the degree of severity of early maladaptive schemas is determined by the level of development of students' hardiness, the development of which is facilitated by reaching a certain age.

The purpose of the article is to test and substantiate the connection between hardiness and maladaptive schemas in students of different ages.

Methods

The study has involved first- and sixth-year students of Tula State Lev Tolstoy Pedagogical University, studying under bachelor's and master's degree programs in the field of "Psychological and Pedagogical Education", aged 18 to 24 years. The quantitative composition of the sample is 67 people. The gender and age composition of the sample involves 58 girls and 9 boys; the students participating in the study have been divided into two groups according to the age criterion; the gender criterion has been taken into account. The average age of the subjects is 20.7 ± 1.8 years, and the median age – 21 years. The median age is the criterion for dividing the subjects into two equal groups: The 1st group is age of $<= 21$ years and the 2nd group is age of 22+. This division allows us to analyze the differences between the samples of students of different age groups.

The following methods have been used in the study. Maddi's Hardiness Survey. This Hardiness Test is a variation of the Hardiness Survey and is based on the theory of the American psychologist Salvatore Maddy. The original version of the adaptation into Russian was made by D.A. Leontiev, E.I. Rasskazova. Young Schema Questionnaire "YSQ-S3R". Questionnaire schemes is adapted into Russian by P.M. Kasyanik, E.V. Romanova.

Descriptive statistics methods were used, the data are presented as mean and standard deviation (Mean±SD), distribution quartiles (Me [Q1; Q3]), we also calculated the skewness (As) and kurtosis (Ek) to assess the normality of the distribution and analyzed the minimum and maximum values (min; max) for data error control. Pearson's correlation coefficient (r) was used to establish the tightness of the relationship between the studied parameters. The parametric Student's

t-test for independent samples was used as a method for comparing quantitative indicators. Regression analysis was used to model resilience from the age of students.

To obtain generalized information about the empirical study data, the distribution and homogeneity of data, the presence of errors and outliers, as well as the possibility of using parametric analysis methods, a primary descriptive analysis of the results of the entire sample (n=67) has been carried out without dividing into groups obtained during the study (Table 1).

Table 1

Primary descriptive analysis of significant sample results (n=67) without division into groups obtained during the study

Scale Title	Mean±SD	Me[Q1; Q3]	As	Ek	min; max
Age (years)	20.7±1.8	21 [19; 22]	-0.3	-1.2	18; 24
Involvement	36,.8±19.5	34 [24; 42]	1.1	1.3	5; 97
Control	26.4±9.5	26 [21; 33]	-0.04	-0.3	6; 48
Risk taking	16.9±6.9	16 [12; 21]	0.5	-0.2	2; 34
Hardiness	61.9±29.5	68 [38; 86]	-0.2	-0.8	8; 127
Unrelenting Standards	17.9±4.9	18 [14; 22]	0.02	-0.4	6; 29
Mistrust	16.9±5.8	16 [12; 19]	0.6	-0.1	7; 30
Vulnerability to Harm or Illness	13.1±5.2	13.3 [10; 16]	0.4	-0.1	5; 27
Subjugation	12.5±5.1	12 [8; 16]	0.7	0.07	5; 26
Negativity / Pessimism	14.9±5.1	14 [11; 18]	0.3	-0.6	5; 27
Alienation	13.4±6.0	13 [9; 16]	0.9	0.3	5; 30
Failure	13.3±5.9	12 [9; 17]	0.9	0.4	5; 30
Dependence/Incompetence	11.1±4.9	10 [7; 14]	0.9	1.0	3; 28
Defectiveness	10.5±6.9	9 [5; 14]	1.3	1.4	3; 30

The analysis of the mean and standard deviation allows us to conclude about the stability of the values of the studied indicators. The values of the mean and median are close, which is a sign of a symmetrical distribution. The values of the asymmetry and kurtosis indicators are in the range from -1 to +1 for almost all indicators, therefore, the distribution of values corresponds to the normal law or does not deviate much from it.

Results

The analysis of the obtained data on Maddi's Hardiness Survey (Table 2, Fig. 1) has been carried out in two ways using a parametric (Student's t-test) and a nonparametric test (Mann-Whitney U-test). As a result, it has been found that between the two experimental groups (<= 21 and 22+) there are differences in the indicators of structural components of resilience (p-value <0.001). The average score on the "Resilience" scale in both the first and second groups is in the range of the average value, the medians of the indicators are also close to the average value in both groups.

Table 2

Descriptive statistics for Maddi's Hardiness Survey indicators with division into age groups

Scale Title	Group (age)	Mean±SD	Me[Q1; Q3]	p-value t-criterion	p-value U-criterion
Involvement	1 (<= 21)	33.4±18.4	34 [22; 35]	<0.001	<0.001
	2 (22+)	42.3±20.4	43 [35; 43]		
Control	1 (<= 21)	26.0±10.7	25 [21; 22]	<0.001	<0.001
	2 (22+)	27.0±7.3	28 [23; 27]		
Risk taking	1 (<= 21)	16.3±6.7	16 [15; 18]	<0.001	<0.001
	2 (22+)	18.0±7.2	19 [16; 20]		

Hardiness	1 (<= 21)	59.9±28.3	63 [45; 83]	<0.001	<0.001
	2 (22+)	63.2±29.7	68 [38; 86]		

Structural components of resilience in different age groups have different levels of severity. Comparison of the two groups by the test has revealed significant differences in the indicator of involvement. A direct relationship was found between the involvement and the age of students (r=0.428, p<0.001). People with a high level of involvement, as a rule, enjoys their life and activities, there is an awareness of life values and meanings. Also, using the Pearson coefficient, a weak positive relationship between risk acceptance and the age of students has been revealed (r=0.271, p<0.001).

However, not everything is so obvious. We have applied a regression model of the dependence of resilience on age (without dividing into groups) to determine possible factors affecting the dependent variable. As a result, a regression model of the dependence of resilience on age (without division into groups) has been obtained, characterizing the nonlinear change in the index of resilience.

We have found that the period from 18 to 21 years proceeds with a slight decrease in the indicators of students' hardiness, but at the age of 22+ there is a rise and a gradual increase in hardiness in the future. Without any doubt, only the age of the subjects is not enough to predict the hardiness index, but the purpose of this regression is to show and describe the influence of age on overcoming early maladaptive schemas among students.

On the basis of a dedicated by Young aggregated categories (domains) of the non-adaptive schemas, we have identified the four most important ones at the respondents – disconnection and rejection (BTR); impaired autonomy (IA); focus on the other (F/O) (violation of requirements of self-respect and acceptance of self) and hypervigilance and inhibition (HI) (violation of requirements in the free expression of their needs and emotions).

The most pronounced maladaptive categories have turned to be "disconnection and rejection" (BTR) and "hypervigilance and inhibition" (HI). In these categories, 14 statistically significant correlations between individual schemas have been found (with coefficients r=0.271 ÷ 0.709, when p<0.01 and p<0.05). The found connections speak about the internal consistency of the test, as well as about the totality of the maladaptive mentality: maladaptive attitudes in one sphere (domains) do not exist in isolation from others.

It has been revealed the greatest number of strong inverse correlations between the resilience with maladaptive schemas "Vulnerability to Harm or Illness" and "Mistrust" (r= -0.578 and r= -0.499 at a significance level of p<0.01), "Subjugation" (r= -0.486), "Failure" (r= -0.443), "Unrelenting Standards" (r= -0.441), "Dependence/Incompetence" (r= -0.431) and "Defectiveness" (r= -0.424) at p<0.01.

Analyzing the data of correlations of the studied variables, we observe that some of them have a high correlation coefficient.

Conclusion

The study has shown that hardiness as a complex quality of a personality is manifested in the active participation of students in the learning process, in their awareness of their leading role in this process, as well as their ability to draw objective conclusions from a variety of situations, including complex, educational and life ones. We agree with the authors [5; 19] that resilience is determined by a person's ability to adapt socially and is part of the subjective picture of the world of youth.

In our study, all the subjects are students between the ages of 18 and 24. Traditional postulates of age psychology and modern data in the field of neurophysiology and psychophysiology allow us to assert that this age range covers fundamentally different from the point of view of the formation of volitional regulation of behaviour, forecasting, risk assessment and control, age stages – associated with the maturation of the frontal cortex of the large hemispheres. In ontogenesis, the functions of volitional regulation begin to develop actively with

the onset of puberty, ending around the age of 20; this period is accompanied by both the acquisition of new coping strategies and a rollback to the "childish" mechanisms of psychological defences. The data obtained by us on the differences in the indicators of students' resilience at different age stages, as well as age-related changes in the "Maladaptation–Coping" dichotomy, reflect the dynamics of both physiological maturation and, as a consequence, psychological maturation.

We have revealed that:

- structural components of hardiness in different age groups have different levels of severity: indicators of involvement and risk-taking grow with age, as well as the integral indicator of resilience;

- indicators of hardiness and maladaptive schemas have different factor loads at different ages, consistent with the identified tendencies towards increasing hardiness and reducing manifestations of maladaptation in the process of growing up.

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