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**STUDY OF HARDINESS IN ADOLESCENTS AND ITS
INTERRELATION WITH COPING BEHAVIOUR**

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Abstract

The nature of interrelation between hardiness and coping behaviour in adolescents is reflected in the fact that hardiness determines inner devaluation when assessing a stressful situation, making it seem less conflictual, psychotraumatic, dangerous or frustrating, and convinces in self-reliance in coping with difficulties. We used a theoretical approach of analysing phenomenology, pattern of coping strategies in adolescents. Empirical approaches included such psychodiagnostic techniques as the Hardiness Survey developed by A. Maddi adapted by Leontyev, the Ways of Coping Questionnaire by Lazarus, and the Coping Behaviour Questionnaire by Barlas; descriptive statistics methods; Spearman's correlation analysis; SPSS 19.0 for WINDOWS. The study showed that a higher degree of hardiness in adolescents indicates a higher development of the capability to acknowledge own responsibility for an issue, admit own mistakes and analyse them to prevent their recurrence, determination to maintain composure and self-control in a difficult situation, the capability to disguise own condition and control own feelings and actions, to make calculated and issue-oriented efforts to change the situation including performing analysis of the situation and considering different ways of dealing with the issue, to develop and follow a plan to address the problem and to change the activity only in case of continuous failure. The conducted analysis documented statistically significant correlation between the studied factors. It demonstrated that hardiness is a crucial part of structural and dynamic organization of coping behaviour in adolescents.

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Keywords: Hardiness, coping, coping behaviour, adolescence, development.



1. Introduction

The significance of the research topic is determined by the increase in the number and severity of environmental, technogenic and social emergencies, aggressiveness of the information environment, dehumanization, increased violence in the educational environment (Aelenei, Lewis, & Oyserman, 2017; Berzonsky & Papini, 2014; Ungar et al, 2008), intensification of the educational process, and pedagogical techniques that trigger stress in schoolchildren (Bong, Hwang, Noh, & Kim, 2014; Dolgova, Kutepova, Kryzhanovskaya, Bolshakova, & Tulkibaeva, 2018; Wentzel, Russell, & Baker, 2016). All the reasons stated above account for the development of such personal traits in adolescents that support their resilience in the world. At the same time the stagnation of personal resources is experienced, and an adolescent becomes a victim of adverse conditions of socialization (Kajonius & Carlander, 2017; Plötner, Over, Carpenter, & Tomasello, 2015) accompanied by pessimism, inactivity, uncertainty about the future, helplessness, infantilism, etc.

A developed resilience can protect against stress-induced reaction and encourage conscious perception of life and personal growth (Ongley, & Malti, 2014; Zhakupova, Dolgova, Kondratieva, Kapitanets, & Nurtdinova, 2018a; Zhakupova, Dolgova, Kondratieva, Kapitanets, & Nurtdinova, 2018b) even in poor conditions.

In contemporary psychology a problem of conceptual vagueness of resilience occurs. It comprises notions from a personality trait to an integrated and systematic entity. The researches of resilience phenomenon and characteristic aspects of the development of resilience in adolescents and their coping with difficult and stressful life situations designate it as a stress management and social adaptation tool, therefore including these notions in the resilience concept in psychology (Aleksandrova, 2014; Dolgova et al., 2018). Other researches classify it as a basic integral personal characteristic of suicidal behaviour prevention (Knight, Mahrer, Carlo, & Davis, 2016; Knizhnikova, 2017; Vianello, Schnabl, Sriram, & Nosek, 2016). Resilience is also regarded as a psychological, personal resource of an individual and described as a resource of stability and a resource of self-control. These resources have a buffering effect that decreases the dependence of psychological well-being from the environment and circumstances. In this interpretation it is referred to as hardiness. It represents an individual's capacity to withstand a stressful situation while maintaining internal balance and successfulness of an activity and is considered as a system of beliefs of oneself, of the world, and of the relations with the world (Leontyev, 2016).

Hardiness expresses a stable disposition of an individual that allows him to stay active and stops negative consequences of stress, represents his psychological vitality and expanded effectiveness, serves as a measure of mental health, and comprises three interrelated attitudes (commitment, control, and challenge) that determine the interaction of an individual with the world (Maddi, 2002). Commitment involves an active participation of an individual in a personal life activity. Control is understanding that fighting for independence and reliance on a personal strategy in a specific situation determine the consequences of the current events. Challenge is expressed through desire to have personal experience, either positive or negative, in order to grow as a person (Leontyev, 2015; Morrison et al., 2016).

Elements of hardiness develop in childhood and adolescence in close connection with independence, health indicators, and advantageous life scenarios. The fact that hardiness is an inner resource under a full

control of an individual that can be modified and reinvented, and that contributes to physical, mental and social health and gives life significance and meaning adds to the value of studying hardiness in adolescents.

The premise that hardiness is based not on the denial, or perception of the source of stress as unreal, but on the acceptance of the source of stress as a reality and the intention to transform the situation into an advantage (Makhnach, 2017; Sokol, & Serper, 2017; Tsiring, 2009) allows to study hardiness as a resource that serves as a foundation for the development of coping strategies (Rasskazova, 2015). Each structural element of hardiness contributes to reappraising the negative situation in a positive way, and combined together they enable to choose a stable coping strategy.

At the current stage coping behaviour is described as social behaviour or a set of conscious adaptive actions (cognitive, affective, and behavioural) that help an individual cope with internal stress and discomfort through options that would be appropriate to a situation and capabilities based on a conscious action plan (Bizyuk, Vasserman, & Iovlev, 2013; Rylskaya, 2017; Kholodnaya & Khazova, 2017). The nature of interrelation between hardiness and coping behaviour in adolescents is reflected in the fact that hardiness determines inner devaluation when assessing a stressful situation, making it seem less conflictual, psychotraumatic, dangerous or frustrating, and convinces in self-reliance in coping with difficulties

2. Problem Statement

The intention to conduct a research on hardiness in adolescents and its interrelation with coping behavior was motivated by its social importance and the necessity to create optimal conditions for a personal fulfillment in private life.

3. Research Questions

The research questions concern the identification of possible changes in the level of significance and nature of correlations between the hardiness in adolescents and active problems solving approach oriented towards coping behaviour.

4. Purpose of the Study

The purpose of the study was to conduct a research on hardiness in adolescents and its interrelation with coping behaviour.

5. Research Methods

The empirical study was carried out in the Chelyabinsk school No. 00 in 2017 and involved children of the seventh grade including 26 boys and 26 girls (13-14 years of age). The sample comprised 52 children in total.

We applied the following methods (Zabrodin, & Pakhalyan, 2015; Zagvyazinskiy, 2008): 1) theoretical - analysing psychological and pedagogical literature on phenomenology, classification and pattern of coping strategies in adolescents; 2) empirical - including such psychodiagnostic techniques as the Hardiness Survey developed by A. Maddi and adapted by D.A. Leontyev, the Ways of Coping

Questionnaire by R. Lazarus, and the Coping Behaviour Questionnaire by T.V. Barlas; 3) methods of data processing and mathematical and statistical analysis - descriptive statistics methods; Spearman's correlation analysis (Sidorenko, 2013). Statistical data processing was conducted with the use of SPSS 19.0 for WINDOWS.

The article is written in the framework of the Scientific and Methodological Foundations of Psychology and Management Technology of Innovative Educational Processes in the Changing World scientific project of the comprehensive plan of research, project and organizational activities of the research centre of Russian Academy of Education in the South Ural State Humanitarian Pedagogical University for 2018-2020

6. Findings

We analysed the data collected with Maddi's Hardiness Survey in adaptation by D.A. Leontyev. The findings showed distribution of the subjects in terms of a degree of dominance of the main attitudes of hardiness (Figure 1).

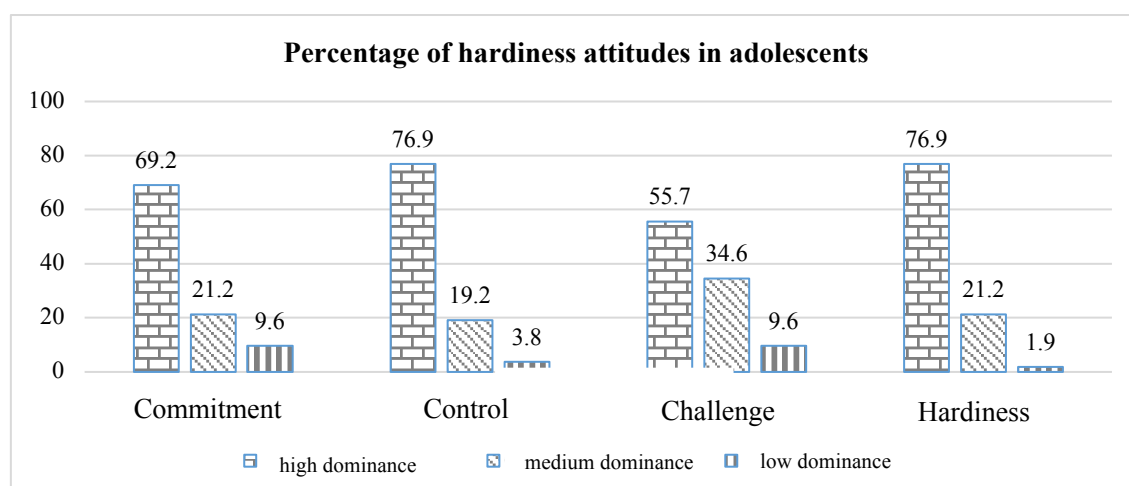


Figure 01. Study findings of the dominance degrees of hardiness attitudes in adolescents (N= 52)

Descriptive statistical analysis of the findings showed a high dominance of the Control attitude in the hardiness of adolescents (76,9%) that is reflected in the willingness to fight for independence and self-reliance in establishing a personal strategy when facing a difficult situation. The distribution of adolescents in terms of the Challenge attitude dominance degree is more balanced. The number of adolescents with a high dominance of Challenge, who prefer to treat life as a means to gain experience, believe that the pursuit of comfort and security impoverishes a personality and are ready to act at their own risk without reliable guarantees of success, is approximately equal to the number of adolescents with a medium and low dominance of Challenge combined (55.7% vs. 44.2%). In general the study findings demonstrated predominance of adolescents with a high degree of hardiness (76.9 %) that can suggest the presence of motivation to transformational coping including openness to new things and readiness to act actively in a stressful situation (the use of resilient coping strategies by an individual).

Tables 1 and 2 show the findings.

Table 01. Positive correlations between the figures for hardiness and coping behaviour strategies in adolescents (N =52)

Figures for coping behaviour strategies	Figures for hardiness			
	Commitment	Control	Challenge	Hardiness
Self-control	.456**	.421**	.381**	.490**
Acceptance of responsibility	.643**	.633**	.451**	.711**
Problem solution planning	.614**	.596**	.470**	.673**
Positive reappraisal	.696**	.538**	0.252	.652**
Emotional discharge	.577**	.567**	.496**	.663**
Rational actions	.616**	.614**	.424**	.668**
Seeking of assistance	0.193	0.08	.363**	0.216
Perseverance	.528**	.502**	.301**	.549**
Expression of feelings	.435**	.315**	.305**	.424**
Positive thinking	.492**	.441**	.281**	.512**
Abstraction	.565**	.663**	.394**	.671**
Calmness	.419**	.511**	0.253	.491**
Control of emotions	.625**	.614**	.493**	.696**
Self-change	.368**	.313**	0.174	.369**
Humour	.506**	.493**	.341**	.540**
Assessment of fault	.548**	.464**	.370**	.564**
Remarks: N - number of subjects; Spearman's rho * - $p \leq 0.05$, ** - $p \leq 0.01$, ***- $p \leq 0.001$;				

We applied Spearman's correlation analysis to determine a presence and nature of interrelation between hardiness attitudes and coping behaviour in adolescents.

It allowed us to perform a quantitative assessment of the correlation degree between the studied factors irrespective of a researcher's interference.

The obtained data of correlation coefficients was divided into two groups according to the direction of association between the factors: positive correlations and negative correlations.

The quantitative analysis of the findings showed 64 positive correlations between the figures for hardiness and coping behaviour in adolescents, including 58 correlations with a high level of statistical significance, which accounted for 90.6 % of the total number of positive correlations.

Coping strategies with the highest correlation coefficients with hardiness in adolescents are Acceptance of responsibility (.711**), Control of emotions (.696**), Problem solution planning (.673**), Abstraction (.671**), and Rational actions (.668**).

These strategies were assessed highly in other studies as well (Artemyeva, 2018; Font, Garay, & Jones, 2016; Oyserman, Destin, & Novin, 2014).

The study also found 48 negative correlations between the studied figures (Table 2) including 32 statistically significant correlations, which accounted for 66.6 % of the total correlations. This number is considerably lower than the documented positive correlations.

Table 02. Negative correlations between the figures for hardiness and coping behaviour strategies in adolescents (N =52)

Figures for coping behaviour strategies	Figures for hardiness			
	Commitment	Control	Challenge	Hardiness
Confrontation	-.585**	-.584**	-.282*	-.617**
Distancing	-.579**	-.552**	-.541**	-.655**
Seeking of social support	-0.14	-0.127	-0.008	-0.122
Escape	-.712**	-.638**	-.418**	-.730**
Withdrawal	-.569**	-.437**	-.363**	-.556**
Fatalism	-.558**	-.531**	-.536**	-.648**
Fantasy	-0.041	-0.112	-0.122	-0.099
Denial	-.518**	-.398**	-.344*	-.523**
Self-accusation	-.501**	-.334*	-.0198	-.451**
Hesitation	-0.241	-0.241	-.302*	-.299*
Social exclusion	-0.158	-0.176	-0.123	-0.175
Repression	-.371**	-0.266	-0.218	-.356*
Remarks: N - number of subjects; Spearman's rho * - $p \leq 0.05$, ** - $p \leq 0.01$, ***- $p \leq 0.001$;				

The quantitative analysis of the negative correlations showed that the highest level of statistical significance was demonstrated by such coping strategies as Escape (-.730**), Distancing (-.655**), Fatalism (-.648**), and Confrontation (-.617**).

Our findings correlate well with the findings of our colleagues observed in their studies (Kandler, Gottschling, & Spinath, 2016; Rahamim, Meiran, Garbi, & Shahrar, 2016; Song, Bong, Lee, & Kim, 2015).

In other words, a lower level of hardiness in adolescents accounts for a higher degree of dominance of such destructive coping strategies as an intention to escape problems through fantasies and corresponding behaviour, and predisposition to lack of activities aimed at changing a situation.

Our study showed findings similar to other authors' results. Such an adolescent distances from a stressful situation diminishing its significance, shrinks from decisive actions, sees such a situation as inevitable and maintains habitual behaviour, or shows aggression in an attempt to change it and strives to obliterate difficult life circumstances

7. Conclusion

Qualitative analysis of the level of significance and nature of correlations between the studied factors resulted in the formation of understanding of the mutual dependence between the hardiness in adolescents and active problem solving oriented coping behaviour. The study showed that a higher degree of hardiness in adolescents indicates a higher development of the capability to acknowledge own responsibility for an issue, admit own mistakes and analyse them to prevent their recurrence, determination to maintain composure and self-control in a difficult situation, the capability to disguise own condition and control own feelings and actions, to make calculated and issue-oriented efforts to change the situation including performing analysis of the situation and considering different ways of dealing with the issue, to develop and follow a plan to address the problem and to change the activity only in case of continuous failure.

Theoretical analysis of the issue and the presence of statistically significant correlations between the studied factors demonstrate that hardiness is a crucial part of structural and dynamic organization of coping behaviour in adolescents

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