

THE ROLE OF ANTICIPATORY COMPETENCE IN THE ORIGIN DEVIANT BEHAVIOR

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The article presents the analysis of anticipation problem and probabilistic forecasting at mental disability, schizophrenia, neurosis, speech pathology. The author proceeds from the understanding that all the Gnostic and human motor activity is regulated by anticipatory-prognostic process. Previous experience and external situation serve as the basis of hypotheses about the upcoming future. According to the prediction, preparations for appropriate actions are made. Thus, probabilistic forecasting has adaptive - maladaptive character, and anticipatory incompetence is observed at intellectual or mental disability. We assumed that the basis of deviant behavior is a mechanism, controlling the forecast manner of the future action results. According to the ontogenetic pattern, developmental age is a sensitive period in respect of anticipatory and prognostic bonds formation system that determines the ability to assess both the cause and effect relations, and the ability to evaluate the consequences of actions committed. When deviant behavior committed, the predictive mechanism of action is obviously deformed. The article presents the results of empirical research of anticipatory competence and deviant behavior adolescents' ability to forecast. It is revealed that adolescents with deviant behavior do not draw up anticipatory a manner of future result. Adolescents are not able to predict the result of both their actions, deeds, and actions of others. Thus, when teenagers with deviant behavior are awarded with the term of imprisonment as a possible punishment in the future, it is perceived as "indeterminate sentence or a punishment that will not happen", what actually supports the repeated commission of deviant behavior among adolescents.

Key words: anticipatory incompetence, forecasting, deviant behavior, adolescents.

THEORETICAL BASIS OF STUDYING THE ANTICIPATION PHENOMENON IN TERMS OF INTELLECTUAL AND MENTAL DISABILITY

Due to the adaptive-maladaptive nature of psychological probabilistic forecasting, the problem of foresight, anticipation was worked out enough in normal development as well as in mental disability, schizophrenia and neuroses (Mendelevitch, 2011; Mendelevitch & Bakhtiyarov, 2014; Mendelevich, Frolova & Solobutina, 2011; Feigenberg, 1986; Solzhenkin & Noskov, 1985; Peresleni, 1976, Rozhkova, 2002; Gul'dan & Ivannikov, 1974; Nadin, 2010). The research results show that at mental or psychic incompetence anticipatory incompetence is also observed.

In psychological studies of human activities and the activities disorder in schizophrenia I.M. Feigenberg (1986) developed the idea of anticipation as the process of probabilistic forecasting. "In any activity a person foresees the most

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likely possibilities for further developments, including the most likely outcomes of their own actions. Thus, without probabilistic forecasting any human activity would have been impossible". The author points to the source of forecasting in activities, which is analysis of relevant information coming through the analyzers and its comparison with the past experience.

It is believed that the ability to probabilistic forecasting is a result of biological evolution in probabilistic organized environment. Forecasts of a living being are designed to optimize the results of his actions. Therefore, they are precisely adequate to those variables of the environment, on which success of the action depends.

Applying his model of probabilistic forecasting to analyze the psyche defects I.M. Feigenberg (1986) considered violation of the probabilistic forecasting mechanism as schizophrenia peculiarity. In his view this feature is found in various types of schizophrenic disorders: in violation of thinking and emotional response. I.M. Feigenberg (1986) noted that healthy people store the past experience in memory in the probabilistic organized form. This means that one does not only keep traces of events occurring in the experience of a person, or just temporary connections, associations between events, but also information on how likely the event occurred. The orderly use of the past experience in memory allows us to implement probabilistic forecasting and be prepared for action in the projected situation (presetting). In schizophrenic defect probabilistic forecasting and presetting are violated.

Patients act as if keeping in their memory events from the past experience, information about the likelihood of these events is disorganized. Hence the inability of a decision making, based on correlation of the present situation with the past experience that gives rise to pathological forms of probabilistic forecasting, and as a consequence, pathological forms of activity.

Clinical analysis of psychopaths' behavior, held by V.V. Gul'dan and V.A. Ivannikov (1974), revealed that psychopaths and healthy people have significant differences in performance with the use of probabilistic forecast, based on the past experience. Healthy people adapt to the environment with changing statistical structure by means of restructuring subjective projection. For the patients under study direct submission to a situation is characteristic, where the past experience is not dominant in the regulation of their own actions. Characteristic is inadequacy of forecasting and the decreased ability to use the past experience to regulate their actions in meaningful situations.

The research results of the probabilistic forecasting in the state of neurosis, carried out by V.V. Solzhenkin and G.G. Noskov (1985), shows the relationship between the nature and extent of forecasting violations and the form of neurotic disorders.

According to D.N. Menitsky (1981), in neuroses there appears the strategy of probabilistic indifference, the simplified strategy of forecasting activities.

V.D. Mendelevitch (2011) proposed, supported and tested on the adult contingent anticipatory concept of neurogenesis mechanisms. As part of this concept neurogenesis is considered as a result of the individual's inability to anticipate the course of events and their own behavior in frustrating and subjectively important situations, due to the premorbid personality characteristics of the so-called "potential neurotic", named anticipatory incompetence unlike anticipatory competence (predictive competence) of the so-called "neurosis resistant personality".

Personality prone to neurotic disorders either excludes undesirable events and actions from their anticipatory activity, focusing only on the desired ones, or adequate prediction is dissolved in a variety of unlikely projections. Finding himself in an unpredictable unfavorable forced out in this regard from the "situational scenario" life conflict, a person is under time pressure for the application of coping - behavior. And even if the system of his psychological compensation is functioning normally, in terms of differences between the forecast and reality and at severity of extreme emotional distress (resentment, frustration, bewilderment) associated with this prognostic error, a person cannot use the potential for coping with the situation and can give neurotic reaction. There are two neurosis-producing types of probabilistic forecasting: monovariant and polyivariant one unlike sano-genetic mechanism of norm-variant forecasting.

Held by V.D. Mendelevitch and E.V. Makaricheva (2002) analysis of the specific forms of anticipatory incompetence and accentuations underlying eating disorders, overvalued interests, sexual misdemeanors and communication violations showed that adolescents with deviations in their behavior observe anticipatory incompetence significantly more frequently than healthy teenagers.

The surveyed teens were significantly less able to predict the behavior of others, to anticipate their actions and statements, and to plan their own behavior. In addition, the patients were characterized by an inability to plan and structure the time and coordinate their own movements.

The experimental - psychological study of the relationship of thought, creativity and anticipatory activity features of healthy individuals and patients with schizophrenia showed that personality - situational component of anticipatory activity of healthy individuals is higher than that of patients with schizophrenia, and temporal and spatial components have equal value. T.V. Ryabova, V.D. Mendelevitch (2000) noticed a tendency: the higher a personal - situational component of anticipation, the higher the rate of flexibility in the structure of creative thinking of schizophrenics.

The presence of fluency and flexibility of thought among mentally healthy people promotes prognostic competence and availability of original thinking is not conducive to efficiency of anticipatory activities.

Significant contribution to the study of the probabilistic forecasting features of healthy children and those with pathology is made by L.I. Peresleni (1976). The

author conducted a comparative study of probabilistic forecasting in 8-9 year old healthy and intellectually disabled children. The work applies the technique based on the conditions of experiments used in the studies of I.M. Feigenberg (1986). L.I. Peresleni (1976) developed a blank technique aimed at the study of predictive activity of the senior preschool and younger school age children. This technique is based on the procedure of guessing letters cyclically alternating in sequence.

The study of children of this age is of particular importance due to the fact that at the beginning of schooling the difference between normal development and mental disabilities is revealed quite clearly. L.I. Peresleni (1976) clearly showed that children with normal intelligence, good achievers in regular school, show pronounced ability to probabilistic forecasting. Children with intellectual disabilities show the process of probabilistic forecasting insufficiently.

In her thesis D.A. Mukhametzyanova (1998) provides an assessment of anticipatory parameters and probabilistic forecasting in healthy children and those with neurotic disorders, their impact on etiopathogenesis of children's neurotic disorders, the study of factors affecting the formation and possible ability retardation to probabilistic forecasting during the child's development for the purpose of early prevention of neurotic disorders.

The author studied the clinical features of the neurotic disorders formation of children in different age groups (preschool, primary and secondary school age) with various forms and stages of neurotic disorders (neurotic reactions, nervous disorders and neuroses, burdened with somatic and residual-organic pathology) depending on anticipatory parameters of mental activity, which manifested themselves in a small percentage of the predicted events which later became trauma.

Based on these results D.A. Mukhametzyanova (1998) proved that these children were brought together by rigid strategy of focusing on predicting events only for one course of events selected in the process of learning.

It is logical to think that verbal behavior like other types of behavior also relies heavily on a probabilistic forecasting.

Of great interest is the study of probabilistic forecasting at different types of speech pathology. Thus, a number of studies have shown that in human speech mechanism there exists a certain organization of words by frequency (Frumkina, 1974).

It is shown, for example, that at schizophrenia there is a significant violation of the probabilistic forecasting of speech activity (Frumkina, 1974). A patient with aphasic speech disorders, on the contrary, does not come to the collapse of the probabilistic organization of speech experience on both phonemic and verbal level. The studies (the name is deleted to provide the integrity of the review process) carried out a comprehensive and systematic assessment of the development of such psychological phenomena as anticipation and probabilistic forecasting at preschool children with speech underdevelopment and assessing the relationship

between these two parameters. The author found that the predominant part of the children with speech underdevelopment forms a valid prediction of events at a slower pace, with a large number of distraction errors and with the use of irrational strategies. Diagnostics of personal-situational parameters of anticipatory competence at children with speech underdevelopment shows a pronounced deviation of these parameters from the norm, which is manifested in the inability to predict the communicative events, behavioral responses of others, their own actions. The results of the study revealed the presence of a number of features of temporal component of anticipatory competence at violation of speech development. The results of research and analysis of indicators of children with speech underdevelopment adaptation to the social environment suggest a lack of anticipatory competence development of these children. The latter is manifested in the increased conflictness, reflecting the child's inability to anticipate the events and their own behavior in frustrating and subjectively important situations.

M.M. Solobutina (2012) made an attempt to study the specificity of the speech prediction in neurotic disorders. Her research has allowed to expand ideas of speech-reflective processes in thier relation to anticipatory incompetence in healthy individuals and patients with neurotic disorders.

It was assumed that the impaired ability to forecast determines social maladaptation as individual anticipatory opportunities are one of the factors of psychologically healthy, resistant to stress and able to overcome the difficulties of life personality. In the course of research the author found that the severity of distress in neurotic disorders reduces anticipatory ability in speech activity. Violation of anticipation in speech activity in neurotic disorders is reversible in character: reduction of distress severity has a positive effect on the value of the speech prediction. Excessive force and duration of the stressors resulting in the transition of the primary stress in a destructive one determine the specificity of anticipatory abilities in speech activity. It is found that neurotic disorders are accompanied by violation of anticipation in speech activity, but the degree of impairment depends not only on the intensity of distress, but also on the severity of psychopathology and the depth of frustration. The experience of negative consequences of stress reduces the anticipatory ability for speech activity in both healthy and neurotic patients, but not equally: impairments in the speech predicting are greater in neurotic disorders.

Lack of knowledge about the features of overcoming stressful situations in normal conditions and in different types of mental disorders has been a source of research problem identifying relationships of anticipatory competence, on the example of people suffering from psychosomatic and neurotic disorders, done by I.R. Abitov (2013, 2015). The author has revealed the relationships between anticipatory competence and psychosomatic and neurotic disorders. In the group of people suffering from psychosomatic and neurotic disorders, all indicators of

anticipatory competence have lower values than in the group of healthy individuals. At the same time they are distinguished by the predominance of the emotion of disgust and such personality traits as jealousy and high criticality.

The research by A.F. Minullina (2014) is devoted to the study of family and personal parents features influence on the formation of anticipatory incompetence in drug addicts. The author found that the parents' forecasting strategy is one of the prognostic factors in the formation of competence in children. This, in turn, indicates the existence in drug addicts families of sustainable pathogenic pattern, translated by parents in the process of upbringing and determining maladaptive (including dependent) forms of behavior.

Thus, the problem of anticipation as it were permeates all the range of problems of psychological science. It arises in this or that form in the study of both mental processes and mental conditions and mental characteristics of man.

Based on the theoretical analysis of the problem of anticipation in health and pathology it can be concluded that the probabilistic forecasting has adaptive - maladaptive character and at mental disability or mental disease, anticipatory incompetence is observed.

We have assumed that the basis of deviant behavior is a mechanism, controlling the forecast manner of the future actions results. According to ontogenetic patterns, developmental age is a sensitive period in respect of anticipatory and prognostic bonds formation system that determines the ability to assess both the cause and effect relations, and the ability to evaluate the consequences of actions committed. When deviant behavior committed, the predictive mechanism of action is obviously deformed (Akhmetzyanova, A.I., 2013, 2014; Barlett, 2015; Bryanta & Forsythb, 2012; Corkina, Wiesnerb, Reynab & Shuklac, 2015; Kleef, Wanders, Stamkou, Homan, 2015; Miller, 2015). Consequently, adolescents with low anticipatory competence are more prone to delinquent behavior.

The subject of research: the phenomena of anticipation and forecasting in adolescence. The object of research is peculiarity of the relationship of anticipation and forecasting in adolescents with deviant behavior. The aim of the research is to study the structure and mechanisms of the relationship of anticipation and forecasting in adolescents with deviant behavior.

ORGANIZATION AND METHODS OF RESEARCH

The total number of study sample was 190 adolescents. The size of the experimental group (E) was 100 adolescents (56 boys, 44 girls) being the students in the State special public educational closed institution for children and adolescents with deviant behavior "Republican special comprehensive school named after N.A. Gallyamov" (Kazan), Municipal budgetary institution of the youth policy of the city of Kazan "Social and Rehabilitation Center for children with deviant behavior", Raifa special vocational school for children and adolescents with deviant behavior

(Kazan) and in the Temporary custody center for minors (Kursk). Adolescents were in the center for psychoactive drugs use, disorderly conduct, vagrancy and petty thefts. Age of the subjects of the experimental group ranged from 12 to 15 years. The age of the offenders in the experimental group ranged from 12 to 15 years. The total size of the control group (CG) was 90 adolescents enrolled in secondary educational institutions at the age from 12 to 15 years (45 boys, 45 girls).

Organization of the study was carried out in two stages in series. The first stage, informing and motivating the offenders, was completed with signing the informed consent by parents of adolescents. The procedure of the research was carried out individually.

The objective of the first stage was to study characteristics of anticipatory-prognostic system of adolescents with deviant behavior. The second stage studied the time perspective of a deviant behavior adolescent's personality.

The methods of research are presented with psycho-diagnostic procedures (Test for anticipatory competence (prognostic competence (Mendelevitch, 2011); test-method "The ability to predict" (Regush, 2003); questionnaire by F. Zimbardo on temporary perspective of adaptation by A. Syrtsova (2008).

Statistical processing was performed using the methods of descriptive (description of average values, modes, median, standard deviation, minimum and maximum values) and comparative statistics (distribution-free U criterion- Mann-Whitney test), correlation analysis (r-criterion of Spearman rank correlation test), index calculation of coherent structure, the divergence structure relationships index. All calculations were performed using Excel and statistical package STATISTICA 6.0.

RESEARCH RESULTS

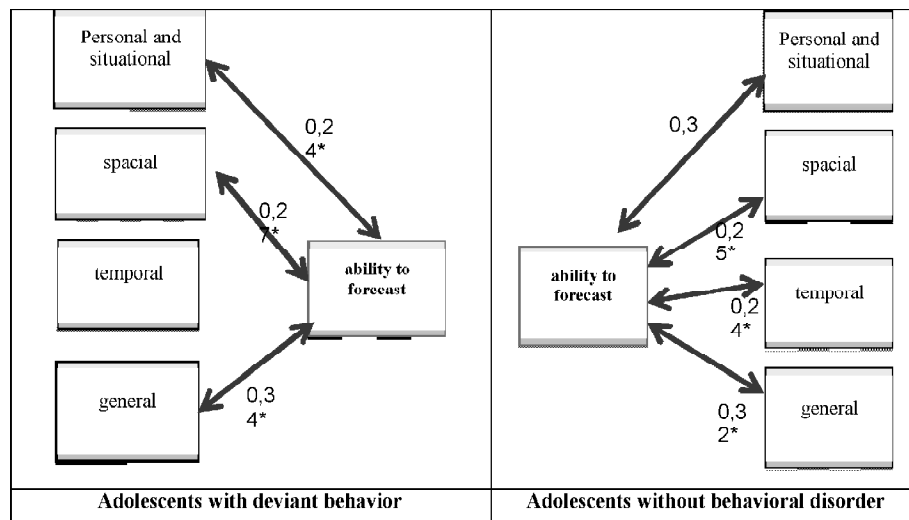
Carrying out the statistical analysis revealed that the overall level of anticipatory competence (being the sum of personal, situational, spatial and temporal anticipatory competence indexes) in both adolescents with behavioral problems, and adolescents without behavioral disorders, is corresponding to the level of anticipatory competence ($\bar{X}_1 \pm \sigma = 251,18 \pm 21,46$; $\bar{X}_2 \pm \sigma = 256,10 \pm 20,35$) (see table 1).

As a result of analysis of the ability to predict we have revealed the average level of ability to predict in both adolescents with behavioral problems, and adolescents without behavioral disorders ($\bar{X}_1 \pm \sigma = 9,62 \pm 3,08$; $\bar{X}_2 \pm \sigma = 9,74 \pm 2,21$) at high results heterogeneity.

The study of the relationships of anticipation and forecasting in adolescents with deviant behavior was carried out using the method of correlation analysis (r-criterion of Spearman rank correlation test, $p < 0.05$). The results are shown in Figure 1.

TABLE 1 : VALUES OF DESCRIPTIVE STATISTICS OF ANTICIPATORY COMPETENCE INDICATORS OF ADOLESCENTS WITH DEVIANT BEHAVIOR AND ADOLESCENTS WITHOUT BEHAVIORAL DISORDER (IN POINT VALUES)

Indicators of descriptive statistics	Anticipatory competence indicators of adolescents with deviant behavior				Anticipatory competence indicators of adolescents without behavioral disorder			
	Personal and situational	spacial	temporal	general	personal and situational	spacial	temporal	general
	\bar{X}	168,75	49,34	38,01	256,10	168,75	49,34	33,01
σ	12,49	8,74	6,29	20,35	11,52	9,24	7,59	21,46
min	116	25	23	197	118	27	20	191
max	198	66	55	302	192	68	49	294
Mo	181	46	39	262	179	48	34	257
Me	168	49	38	258,5	165	51	32	252,5



Picture 1: The study of the relationships of anticipation and forecasting in adolescents with deviant behavior

The analysis of structural organization anticipatory-prognostic system of adolescents with deviant behavior was carried out by calculating the coefficient of structure organization (CSO), defined as the difference between coherence and divergence structure coefficients. Structural organization anticipatory-prognostic system of adolescents with deviant behavior is characterized by low integration (CSO = 6) compared with adolescents without behavioral disorders (CSO = 11).

Since the organization of temporal perspective is an essential component of both prognostic and anticipatory processes, the task of the second stage of the

research is to study the characteristics of temporal perspective of deviant behavior adolescents' personality.

In statistical analysis of temporal perspective indicator of adolescents with deviant behavior we have obtained the following results (see Table 2).

TABLE 2: VALUES OF DESCRIPTIVE STATISTICS OF TIME PERSPECTIVE INDICATORS OF ADOLESCENTS WITH DEVIANT BEHAVIOR AND ADOLESCENTS WITHOUT BEHAVIORAL DISORDER (IN POINT VALUES)

<i>Indicators of descriptive statistics</i>	<i>Time perspective indicators of adolescents without behavioral disorder</i>					<i>Time perspective indicators of adolescents with deviant behavior</i>				
	<i>Negative past</i>	<i>Hedonistic present</i>	<i>Future</i>	<i>Positive past</i>	<i>Fatalistic present</i>	<i>Negative past</i>	<i>Hedonistic present</i>	<i>Future</i>	<i>Positive past</i>	<i>Fatalistic present</i>
\bar{X}	3,01	3,42	3,28	3,57	2,95	3,06	3,48	3,18	3,47	2,71
σ	0,77	0,62	0,54	0,68	0,62	0,79	0,68	0,34	0,74	0,64
min	1,6	2	2,4	2,5	1,6	1,1	1,6	1,9	1,4	1,3
max	4,8	4,4	4,4	4,6	4,3	5,4	4,9	4,6	4,8	4,2
Mo	3	3,5	3,5	3,3	2,9	3	3,5	3,2	4	3
Me	3	3,5	3,3	3,6	3	3	3,5	3,2	3,6	3

DISCUSSION OF THE RESEARCH RESULTS

The anticipatory competence is understood as the ability of personality to anticipate the course of events with a high probability, to predict the development of situations and reactions to them, to act with temporal and spatial prediction (Mendelevitch, 2011). Thus, adolescents with deviant behavior show the ability to anticipate events, situations and their own reactions with high probability.

The anticipation consistency of adolescents with deviant behavior is characterized by the temporary anticipatory incompetence at a personal, situational and spatial competence.

The personal and situational anticipatory competence reflects the communicative level of anticipation, i. e. the ability to predict life events and situations. The spatial anticipatory competence demonstrates the ability to predict the movement of subjects in space, to anticipate, to coordinate one's own movements showing motor dexterity. Temporal anticipatory incompetence is characterized by inability to predict a flow of time and to define its value. Thus, when teenagers with deviant behavior are awarded with the term of imprisonment as a possible punishment in the future, it is perceived as "indeterminate sentence or a punishment that will not happen", what actually supports the repeated commission of deviant behavior among adolescents. A personal and situational anticipatory competence at the developmental age (66%) is of great importance for the general anticipatory

competence as it reflects the communicative level of anticipation, i.e. the ability to predict life events and situations.

The average forecasting level is characterized by insufficient ability to expect results both from one's own actions and actions of people around.

The significant positive (direct) correlation relationship between personal and situational (0,24 *), spatial (0,27 *), general (0,34 *) anticipatory competence and forecasting ability are revealed in adolescents with deviant behavior. This means that forecasting ability is increasing with the growth of personal, situational, spatial and general anticipatory competence. At that significant relationships between temporary anticipation and forecasting ability are absent, what indicates inability to predict a flow of time and to define its value.

The significant positive (direct) correlations between forecasting ability and personal- situational (0,30*), spatial (0,25*), temporary (0,24*), and general (0,32*) anticipatory competence are revealed as a result of research of anticipatory competence relationships and forecasting ability of normal adolescents. Thereby, the growth of a personal, situational, spatial, temporary and general anticipatory competence increases the forecasting ability.

The average value of the negative past (NP) ($x \pm \sigma = 3,06 \pm 0,79$) is lower than the average value of the positive past (PP) ($x \pm \sigma = 3,47 \pm 0,74$), the average value of the fatalistic present (FP) ($x \pm \sigma = 2,95 \pm 0,64$) is lower than the average value of the hedonistic present (HP) ($x \pm \sigma = 3,48 \pm 0,68$), the average value of future (F) ($x \pm \sigma = 3,18 \pm 0,34$) is higher than the average value of the negative past (NP) ($x \pm \sigma = 3,06 \pm 0,79$) and is higher than the average value of the fatalistic present (FP) ($x \pm \sigma = 2,71 \pm 0,64$), but it is lower than the average value of the hedonistic present (HP) ($x \pm \sigma = 3,48 \pm 0,68$) and of the positive past (PP) ($x \pm \sigma = 3,47 \pm 0,74$) (see table 2).

Time perspective is organized in the following format:

NP < PP, FP < HP, F > NP, F > FP, F < HP, F < PP.

According to the statistical analysis of the parameters of time perspective in normal adolescents, the average value of negative past (NP) ($x \pm \sigma = 3,01 \pm 0,77$) is lower than the average value of the positive past (PP) ($x \pm \sigma = 3,57 \pm 0,68$), the average value of the fatalistic present (FP) ($x \pm \sigma = 2,95 \pm 0,62$) is lower than the average value of the hedonistic present (HP) ($x \pm \sigma = 3,42 \pm 0,62$), the average value of future (F) ($x \pm \sigma = 3,28 \pm 0,54$) is higher than the average value of the negative past (NP) ($x \pm \sigma = 3,01 \pm 0,77$) and is higher than the average value of the fatalistic present (FP) ($x \pm \sigma = 2,95 \pm 0,62$), but it is lower than the average value of the hedonistic present (HP) ($x \pm \sigma = 3,42 \pm 0,62$) and the positive past (PP) ($x \pm \sigma = 3,57 \pm 0,68$).

Time perspective of teenagers is organized in the following format:

NP < PP, FP < HP, F > NP, F > FP, F < HP, F < PP.

According to the ontogenetic features formulated in basic provisions by L.S. Vygotsky (Vygotsky, 1999), prevailing of the positive past and the present over

the negative past and the negative present is typical for adolescence in a norm; the future is characterized by uncertainty.

CONCLUSION

Thus, statistically significant distinctions as a result of research of anticipatory competence and forecasting ability of adolescents with deviant behavior at the level of indicators expressiveness are not revealed. At that interrelations of temporal anticipation and forecasting ability of teenagers with deviant behavior are absent at the level of interrelations. This tendency is also seen in the formation of time perspective: the image of the result of future actions is not built anticipatorily by adolescents with deviant behavior and it is organized by specificity of neuropsychological regulation of anticipatory predictive system.

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