

**DOI: 10.12731/2218-7405-2013-8-58**

## **LATERAL PSYCHOCORRECTION OF ANXIETY IN CHILDREN LIVING IN DEPRIVATION CONDITIONS**

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**Background:** The problem of anxiety - one of the most pressing problems in today's society. Especially important is the development of this problem in relation to teenage children, reared without parental care. Urgency of the problem stems from the fact that the number of disadvantaged children suffering from anxiety, catastrophic increases. Guidelines on child-rearing and training on management of anxiety, as a rule, do not take into account the child's psycho-physiological characteristics; intervention programs have low efficiency, which ultimately affects the mental health of the child.

**The purpose** of the study was the development and testing of the original program of the lateral psychocorrection, aimed at reducing anxiety in children, brought up in the deprivation conditions.

**Methods:** The study included 27 teenage boys from children's community. The children were divided into two groups in accordance with their lateral phenotype. Psychocorrection on the original program that takes into account the lateral organization of the brain was provided. Before and after psychocorrection assessed the level of anxiety

**Results:** It was shown the effectiveness of the original lateral psychocorrection program of anxiety in teenagers, brought up in the deprivation conditions. Because the program is aimed mainly at the right hemisphere of the brain, the most pronounced effect was registered in children – ambidextrous.

**Conclusion:** Presented results suggest the need for a differentiated approach to the correction of anxiety depending on the functional asymmetry of the brain.

**Key words:** psychocorrection; teenagers; deprivation; anxiety; functional asymmetry of the brain.

## **ЛАТЕРАЛЬНАЯ ПСИХОКОРРЕКЦИЯ ТРЕВОЖНОСТИ У ДЕТЕЙ, ВОСПИТЫВАЮЩИХСЯ В УСЛОВИЯХ ДЕПРИВАЦИИ**

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**Состояние вопроса.** Проблема тревожности - одна из острых проблем в современном обществе. Особенно важной представляется разработка данной проблемы применительно к детям подросткового возраста, воспитывающимся без попечения родителей, Актуальность проблемы связана с тем фактом, что количество депривированных детей, страдающих тревожностью, катастрофически увеличивается. Методические рекомендации по воспитанию детей и тренинги по регулированию тревожности, как правило, не учитывают психофизиологических особенностей ребенка; коррекционные программы имеют низкую эффективность, что в итоге отрицательно сказывается на психическом здоровье ребенка.

**Целью** настоящего исследования была разработка и оценка эффективности оригинальной программы латеральной психокоррекции, направленной на снижение тревожности у детей, воспитывающихся в условиях депривации..

**Методы исследования:** В исследование было включено 27 мальчиков подросткового возраста, воспитанников детского дома. Дети были разделены на две группы, в соответствии с латеральным фенотипом. Было проведено психокоррекционное воздействие, по оригинальной программе, учитывающее латеральную организацию головного мозга. До и после воздействия оценивался уровень тревожности.

**Результаты исследования:** Показана эффективность программы латеральной психокоррекция тревожности у подростков, воспитывающихся в усло-

виях депривации. Поскольку программа направлена преимущественно на правое полушарие головного мозга, то наиболее выраженный эффект воздействия регистрировался у детей - амбидекстров.

**Заключение:** представленные результаты свидетельствуют о необходимости разработки дифференцированных подходов к коррекции тревожности у детей в зависимости от функциональной асимметрии головного мозга.

**Ключевые слова:** психокоррекция; подростки; депривация; тревожность; функциональная асимметрия головного мозга.

### **Introduction.**

The problem of anxiety is one of the acute problems of modern society. The interest of Russian psychologists to its studying has increased considerably due to the sharp changes in social life which provoked uncertainty and significantly decreased predictability of the future and, consequently, gave rise to feelings of tension and anxiety. When it comes to children exposed to deprivation conditions the resolving of this problem should be prioritized because the anxiety is one of the primary features of deprivation syndrome. Russian psychologists have got interested in this issue due to the aggravation of social situation. There are approximately 600,000 orphans in Russia, 95% of which are social orphans, i.e. children whose parents are alive but have been deprived of parental rights or abandoned their children. About 200,000 children reside in orphanages. According to different sociological and psychological studies adolescents deprived of parental care there manifest high level of anxiety and aggression. The severity of the problem also stems from the fact that the number of deprived children suffering from anxiety is increasing catastrophically [5, 12].

Unfortunately methodical recommendations on fostering of children and conducting trainings aimed at anxiety regulation ability enhancement, as a rule, fail to take due account of psychological and physiological features of a child as a subject, individuality, personality. Sometimes correction programs have low efficiency. It often results in negative impact on a child's mental health. The above-mentioned facts

bring forth the necessity of developing more effective correctional work methods. The most perspective in this regard, in our opinion, is lateral psychocorrection, i.e. a correction taking into account predominant cerebral hemisphere.

At present the problem of functional asymmetry of the brain and hemispheric interactions is quite relevant. The interest to this problem arises not only from the latest advances in theoretical conceptualizations related to the studies of the brain, but also from the fact that brain lateralization notably affects the course of various mental processes and also perceptive, intellectual, emotional, and other spheres. The study of emotions (or different manifestations of the emotional and personal sphere) in the context of the problem of hemispheric asymmetry has been the focus of scientists attention for a long time. The empirical data have been obtained from healthy subjects (with left or right hemisphere dominance), and from clinical material, but the data are in many instances contradictory and require further research [11].

The necessity for such research is also determined by the problem of social adaptation and rehabilitation of orphaned children and children without parental support which is declared to be prioritized according to the state policy in the field of education and fostering of this category of children.

### **Review of foreign and domestic literature.**

Modern academic community demonstrates growing interest in the problem of anxiety. This interest is a centerpiece of many scientific researches and is analyzed from the standpoint of psychology and many other disciplines. All theories devoted to anxiety can be divided into foreign ones (Z. Freud, K. Horney, K. Izard, H. D. Spilberger) which consider anxiety from the viewpoint of dynamic approach, placing emphasis on unconscious impulses which aren't realized, and domestic (V.V. Suvorov, V. N. Astapov, I.V. Dubrovina, L. I. Bonovich, I.V. Imedadze, N. D. Levitov, C. R. Kislovsky and others) considering anxiety in terms of its functions and pointing out two types of anxiety: state anxiety and trait anxiety. It incidentally coincides with the theory of D. H. Spielberg, who draws a distinction between the state of anxiety

and anxiety as a personality trait. Anxiety in the functional approach is understood as a subjective factor, which organizes the activities of a person.

Z. Freud was the first to point out and stress the state of psychological discomfort and anxiety. He characterized this state as an emotional one which includes the experience of anticipation and uncertainty, the sense of helplessness. This characteristic brings to the fore not so much the components of the state in question as its internal causes. At present many works are concerned with studying the state of anxiety. There is a clear conceptual distinction between the concepts state anxiety and trait anxiety. Astapov V.M., Lazarus R., Prichoan A.M., Spilberger H. D., Z. Freud, Martens R. K., Horney, K. Izard and others suggested their own definitions of the concept «anxiety». In literature anxiety is most frequently construed as an emotional condition. Most often the term «anxiety» is used to describe unpleasant mental condition characterized by subjective feelings of tension, disquietude, gloomy apprehensions, and physiologically accompanied by activation of the autonomic nervous system. The anxiety is an individual psychological feature consisting in increased tendency to experience anxiety in various situations, including those which objectively do not predispose to anxiety activation. Excessively high level of anxiety is seen as maladaptive reaction, which manifests itself in the particular form of behavior and activity disorganization. A. M. Prichoan considers anxiety «as the experience characterized by emotional discomfort, anticipation of impending danger resulting from unsatisfied (yet relevant as of the moment of experiencing anxiety) significant needs and steadily dominant (hypertrophied by their nature) in cases when the anxiety is constant» [12].

The mechanism of formation of anxiety as a personality trait is presented in works by V.M. Astapov, Z.M. Glozman, H. Aizenk and some other authors [1, 2, 3]. According to the above-mentioned authors, changes in personality structure form not instantaneously, but rather gradually and simultaneously to fixation of negative personal attitudes and tendencies to perceive a fairly wide range of situations as threatening and to respond to them by growing anxious. In other words, repeated occurrences of anxiety-evoking situations result in formation of constant readiness to experience

this condition. Constant experiences arousing anxiety become fixed and stiff as personality traits. Therefore, some authors deem improper upbringing and unfavorable relations of a child with its parents (especially with mother) as the main cause of anxiety in children. In a series of works it is shown that rejection of a child by its mother causes anxiety resulted from the impossibility to have its needs for love, affection and protection satisfied. Many authors note that anxiety and emotional stress are largely related to the lack of love from close adults, to the changes of environment, customary conditions and the rhythm of life [6, 14].

The publications analysis allowed us to identify the main negative sides of the high level of trait anxiety:

1. Personality with high anxiety level tends to perceive the world as threatening and dangerous to a far greater extent than a person with low anxiety level.

2. High level anxiety exposes psychological health of a person to the risk of developing pre-neurotic states. It was experimentally proved that students with high anxiety levels represent potentially neurotic group (they are in the pre-disease condition) and call for special control on the part of preventive services.

3. High level of anxiety has negative impact on productivity. Correlation of anxiety with personality traits on which academic achievement depend is noted.

4. Anxiety among other individual and psychological characteristics of a person significantly affects professional orientation. It is shown that students with high anxiety rates avoid orientation to the professions related to equipment and sign systems, preferring professions of the "human - nature", "human – artistic image" type.

5. The anxiety level affects diversely the stability of behavior and skills of self-control. Research subjects with low anxiety level remain calm and confident in their abilities throughout the whole experiment and react adequately in cases they've made mistakes, at the same time willing to correct them; whilst students with high anxiety tend to argue with the experimentator and attribute their failures to external causes.

Along with the effect on health, behavior and efficiency in activities, high anxiety level has adverse effect on the quality of social functioning of a person.

Thuswise, anxiety is considered to be a source of aggressive behavior. It is noted in the behavior analysis of both children and adults. Apart from the above mentioned researches of a number of authors demonstrated decreases a person's self-confidence in terms of interpersonal interaction, is related to the negative social status, and forms the conflict relations.

Based on the foregoing, search for solution of the problem of anxiety as well as finding ways to diagnose anxiety in early stages are among contemporary and paramount tasks which must be resolved by qualified specialists.

The term «deprivation» is widely-used in psychology and medicine today. By deprivation people usually deem such kind of unsatisfaction when a person is separated from possible sources of satisfaction often resulting in adverse consequences. Anxiety, depression, fear, intellectual disorders are the most typical features of the so-called deprivation syndrome. Depending on what exactly a person is deprived of different types of deprivation can be distinguished - sensory, physical, psychosocial, maternal etc [14]. A child's development is influenced by his parents enormously. It's exactly the family where a child finds out for the first time if it is really loved and accepted for what it really is. Children deprived of parental support earn negative social experience, and they are marked by fragile physical and mental health, moral instability. A characteristic result of these negative factors is the high level of social exclusion of these children. According to several authors emotional reactions of children from foster institutions are loaded with strong tension, emotional breakdowns, general cumulative emotional frustration intermittently erupting into aggressive acts; alongside this, such children are characterized by: flat emotions manifestations, increased level of trait anxiety, deformation of pre-personality psychological formations, aggressive negative attitude toward others, underdeveloped and distorted need for love and recognition, inability to adequately assess their personal qualities essential to establishing friendly relations, lack of empathy, weak friendly ties, consumer attitude to adults, prevalence of functional and role-playing type of communication, emotional frustrations. [4, 6, 12, 14].

According to different sociological and psychological researches of adolescents who were deprived of parental care, high level of anxiety and aggressiveness is noted among them. Therefore, the search for forms and methods of work with teenagers, being raised in the institutions of social-and-pedagogical support is of special importance. If adequate techniques of psychological and social and pedagogical aid for children with trait anxiety is be developed, there will be certain progress in overcoming the problems of their self-consciousness, psychological weightiness and behavior.

In view of the above said, **the purpose** this research was undertaken for is the development and evaluation of the effectiveness of the original lateral correction program intended level down anxiety in children, being brought up in the deprivation conditions.

Novelty of the research consists in development of the teaching methods system of psycho-correctional work anxious children being brought up in the deprivation conditions, taking into account peculiarities of the brain functional asymmetry. This approach to date has not been introduced into practice, psychocorrection of anxiety and can be considered one of a kind. The results of the research will have practical relevance in the work of psychologists in orphanages.

#### **Methods of research.**

The experiment involved 27 boys aged from 12 to 13 years, being brought up in MSEI «Orphanage № 12» (Novosibirsk).

*Study of 4 pair functions of cerebral hemispheres functional asymmetry* was conducted using standard method [7]. On the side of motor functions the goal of the research was to identify handedness and functional preference of left or right feet. On the side of sensory asymmetry the study focused on dominance of one or the other eye and ear (in the process of auditory-spatial discrimination). Examined individuals were divided into 2 groups in correspondence with the degree of right-lateral or leftlateral hemisphere prevalence. The group of right-handed testees consisted of fully right-lateral and predominantly right-lateral. Theroup of ambidexters included testees with left-lateral predominance and «isohemispheric» ones.

*Eysenck personality questionnaire*, variant for adolescents EPQ [8], designed for identification of child' personality characteristics - anxiety, neuroticism, extraversion and introversion, adapted by A.G. Shmelyov. Study was conducted before and after the therapeutic intervention.

*The program for anxiety correction taking account of peculiarities of the brain functional asymmetry.* The works by E.D.Homskaya, L.Luria, A.L.Sirotyuk, A.M.Prihozhan, I.A.Furmanova served as the theoretical basis for the present research [9, 12, 13, 14, 15].

Development of the specified psycho-correctional program is based on the following provisions. The problem of overcoming anxiety can be conditionally subdivided into two others: the problem of mastering the state of anxiety, mitigation of negative consequences, and the problem of elimination of anxiety as a relatively stable personal trait. Three directions taken in the course of work with child anxiety in the frame of the program realization were the following:

1. Levelling down muscular tension.
2. Teaching children to control themselves in specific anxiety-evoking situations.
3. Enhancement of self-esteem.

The developed program consists of 24 lessons; the cycle is set to last 3 months granted that/upon condition that 2 lessons are conducted per week. The duration of each lesson is 40-45 minutes. The optimal number of participants is 7-8 aged 12-13.

The program uses the exercises developed by E.Lyutova, G.Monina,L.Kostina [5, 10].

Lateralization of the brain has a significant influence on the course of various mental processes and also on the perceptive, intellectual, emotional, and other areas. So, it is well known that sinistrocerebral predominance is usually coincides with highly-developed verbal and logical thinking, while individuals with dextrocerebral predominance possess well-developed eye-minded thinking. In this connection, the psycho-correction in groups of people with the first type of lateralization should be

verbally-oriented while in second type groups visually-oriented methods will be appropriate is.

Structure of lessons:

- a) introduction (warm-up);
- b) main part (work);
- a) completion (relaxation).

Application of motive warm-up activities reduces the emotional and physical tension in children (on the psychological and physical level). Therewith, activation of sensomotor functions, actualization and reinforcement of any physical skills implies importance such mental functions as emotions, memory, perception and processes of self-regulation for the external world. Warm-up activity is carried out in conjunction with respiration exercises. Then follow the activation and relaxation exercises. One of the most important goals of optimal breath rhythm training is formation of the basic components of deliberate self-regulation. Because the rhythm of breathing is the only bodily rhythms can be spontaneously, consciously and actively regulated. Respiration training turns deep slow breath into a free and regulated unrestricted one, regulated spontaneously.

Then follows the muscle tone regulation which is one of the most important tasks of correction work.

The content of the main part of the lesson depends on what particular unit it refers to.

All lessons are subdivided into three units:

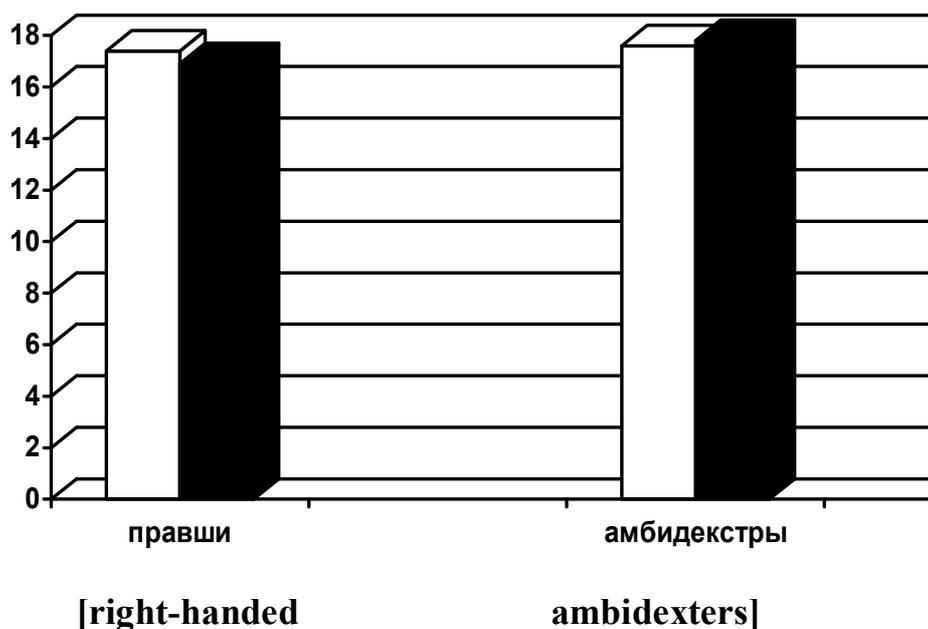
- 1st unit - actualization and reaction of anxiety symptoms (1-9 lessons).
- 2nd unit –self-esteem and self-confidence enhancement. (10-18 lessons).
- 3rd unit - training of self-regulation methods (19-24 lessons).

Each lesson ends with relaxation.

Statistical analysis was performed with the help of paired Mann-Whitney test (computer program “Statistica 6.0”). The results are cast in the form of  $M \pm m$ . Differences were considered significant at  $p < 0,05$ .

## Results and discussion.

Conducted at the initial stage of work anxiety diagnostics supported the data provided by a number of authors indicating that children living in the deprivation conditions are characterized by high levels of anxiety (Fig. 1).



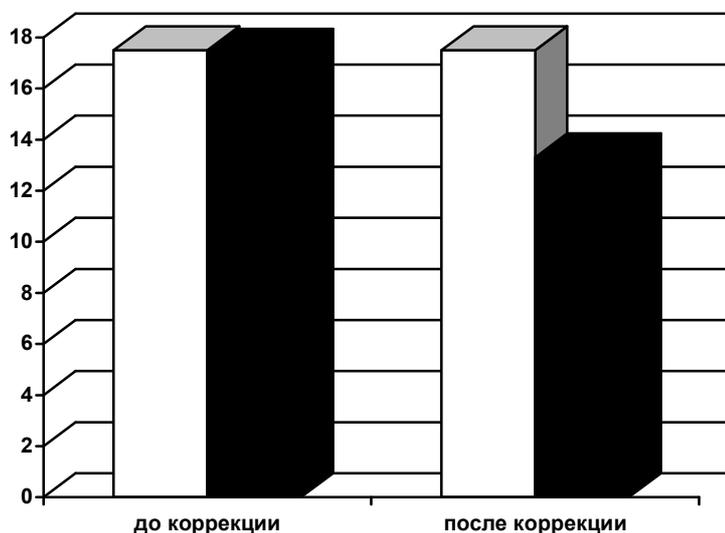
**Fig. 1.** The level of anxiety demonstrated by children with different lateral phenotype.

*Note:* the scale of ordinates shows the average anxiety level. White columns represent the control group (n= 12); black columns represent the experimental group (n= 15). ).  $P = 0.05$  is the level of validity of differences between the groups of right-handed and ambidexters.

All children, in addition to anxiety level tests have undergone functional hemispheric asymmetry tests. On completion of brain functional asymmetry evaluation the children were divided into two groups: 15 persons were included into the experimental group (7 right-handed, 8 ambidexters) and 12 into the control group (6 right-handed and 6 ambidexters). The control group was recruited with the purpose of determining the degree of influence of functional asymmetry of cerebral hemispheres on the level of anxiety: correctional intervention was not applied to this group.

When matching the anxiety level profiles with hemispheric asymmetry profiles it was found out that ambidexters (with left-lateral predominance or «isohemispheric» type) have somewhat higher anxiety level in comparison to the right-handed (Fig. 1), which is also corresponds to the available in literature information [11, 15].

In result of psycho-correctional intervention conducted in accordance with the developed program evident reduction in anxiety levels were demonstrated by all children from the experimental group (Fig. 2), which testifies to the effectiveness of the program.



**[before the intervention      after the intervention]**

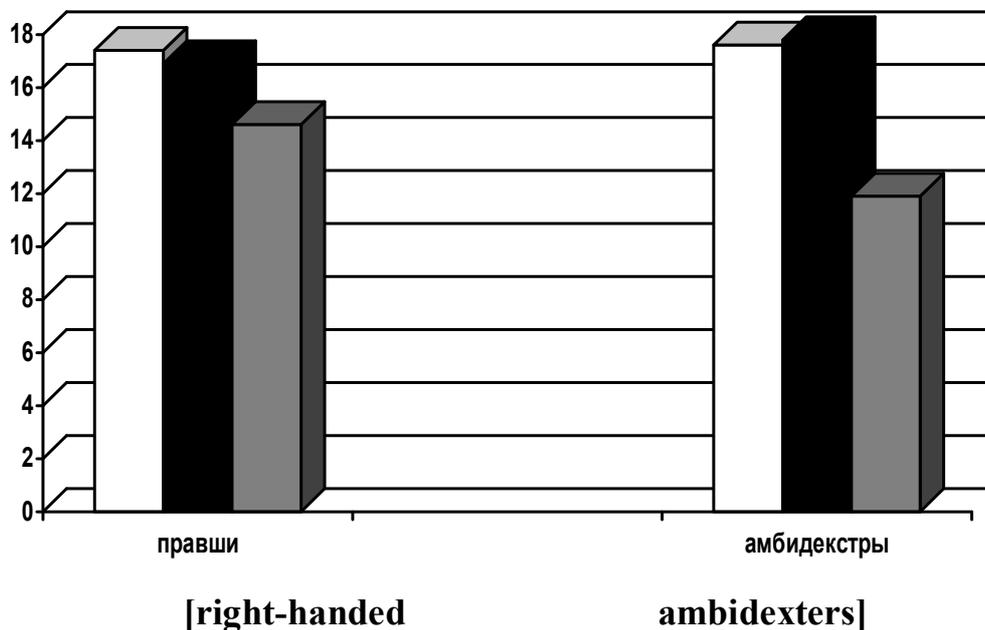
**Fig. 2.** The anxiety level of children who have undergone the therapeutic intervention.

*Note:* on the scale of ordinates shows the average level of anxiety. White columns represent the control group (n= 12); black columns represent the experimental group (n= 15).  $P < 0.01$  is the validity level of post-intervention differences between the control and experimental groups.

Comparative analysis of the correctional treatment effectiveness of children with different lateral phenotype revealed that maximum effectiveness was achieved

in the group of ambidexters, as compared to the group of right-handed people (Fig. 3) which suggests that the effectiveness of the program depends on the brain hemispheres functional asymmetry.

To explain the different levels of therapeutic intervention efficiency supposedly associated with different lateral phenotype we analyzed the content of the developed program of anxiety psychological correction. In the program we used exercises designed to engage both right and left hemisphere, however, it became apparent that a large portion of exercises engages the right cerebral hemisphere. Since the group of ambidexters consisted mostly of children with left-lateral predominance and «isohemispheric» type (according to the results of 4 functions tests) which indicates the tendency to the right-lateral domination or «isolaterality»; this can be the explanation for the obtained results: the developed program for anxiety psycho-correction is more effective for ambidexters.



**Fig. 3.** The anxiety level of children having different lateral phenotype before and after the intervention.

*Note:* the scale of ordinates shows the average level of anxiety. White columns reflect the results obtained in the control group; the black columns shows the indices

of the experimental group before the intervention; the grey columns show the indices of the experimental group after the intervention;  $n = 6-8$  for each group.

$P < 0.05$  is the level of differences significance in the experimental group of the right-handed testees before and after the intervention.  $P < 0.01$  is the level of differences significance in the experimental group of ambidexters before and after the intervention.

This lateral correction of anxiety program was designed primarily for affecting the right hemisphere of the brain, and therefore it is most effective for ambidexters treatment; in its turn, this raises the question of developing a similar program, but oriented to affecting the left hemisphere of the brain and suitable for the correction of anxiety in right-handed children.

### **Conclusion.**

Up to the present time the emotional sphere correction has been carried out regardless of psychophysiological characteristics of a child, although it is evident that functional asymmetry of the brain hemispheres significantly affects the course of various mental processes as well as the perceptive, intellectual, emotional, and other spheres. The presented positive results of approbation of the original program of lateral anxiety correction of children suffering deprivation testify to the efficiency of this method and demonstrate the necessity to develop differentiated approaches to the correction of child anxiety with regard to the functional hemispheric asymmetry.

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