

Здравоохранение

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The diagnostics of attention development level in children and its correction using electroencephalographic biofeedback

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:: Collaboration

Project Proposal

Title: The diagnostics of attention development level in children and its correction using electroencephalographic biofeedback

Type Details: The necessity of studying the attention development level in children and teenagers is determined by the problems related to attention disorders that are typically for this age. Attention deficit disorder is one of the most widespread attention disorders. An objective diagnostics is needed for its treatment. The existing systems of diagnostics criteria of evaluating the attention development level both in healthy children and in those with attention deficit disorders have not been elaborated adequately yet. In this connection it is suggested to carry out a psycho-physiological investigation aimed at finding out the electro-physiological correlates of voluntary attention, evaluation of attention development level. Along with electroencephalogram recording it is proposed to record event-related potentials in a newly developed Go/No-Go paradigm modification.

As a result an objective assessment of cognitive development level is gained. As a consequence it will be possible to diagnose the inattentive children and to develop their attention with the help of the wide-spread methods. Electroencephalographic biofeedback and neurotherapy are among such methods. It has been shown that the method is applicable to treatment of attention deficit disorders and hyperactivity in children with learning difficulties. To increase motivation and efficiency of the therapy a beta-stimulant training session is proposed based on different variants of feedback signal presentation: sound feedback signals, color feedback signals, game biofeedback with various game plots. Application of different variants of feedback signals is especially important when children take part in biofeedback sessions to help avoid conventionalism, monotony of the procedure and keep interest through the biofeedback sessions.

:: Organisation Details

Name: Таврический национальный университет им. В.И. Вернадского,
Министерства образования и науки Украины

Department: физиологии человека и животных и биофизики

Details:

To study the voluntary attention peculiarities in healthy children and teenagers and find out its interconnection with electroencephalogram (EEG) spectral indices and event-related potentials (ERP).

To carry out the training sessions aimed at voluntary attention development by the method of biological feedback by EEG (neurofeedback) using visual and sound feedback signals.

To estimate the efficiency of the sessions through analysis of the acquired EEG indices and psychological tests data.