

PERCENTILE STANDARDS OF PHYSICAL DEVELOPMENT AND MOTOR READINESS OF SCHOOL-AGE CHILDREN

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Abstract. Based on the physical health screening data of the of 90478 Russian 7-18 years old schoolchildren, age- and sex-specific percentiles values of physical development (height; weight; chest circumference; body mass index), and motor skills (30, 60 or 100 meter sprint; 6-minute run; shuttle run 3×10 meters; standing long jump; pullups on the crossbar: high - boys, low – girls) were developed. The physical health screening was conducted by the Institute of Developmental Physiology of the Russian Academy of Education in 2021 on the instructions of the Ministry of Education of Russia. The developed standards can be used to assess the physical and motor development of children, regardless of their region of residence.

Keywords: percentile values; physical development; motor development; school-age children; All-Russian monitoring of the children's physical health.

TENDENCIES OF AGE-RELATED DIFFERENCE IN OF SEXUAL DIMORPHISM OF BODY DIMENSIONS OF INFANTS IN CONNECTION WITH ANTHROPOGENIC AND GEOGRAPHICAL FACTORS

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Abstract. The significance of sexual dimorphism, SD, of somatic dimensions through the infancy as independent indicators of intergroup variability is under discussion. The analysis embraces spectrum of samples of infants aged 0-12 months from former USSR with monthly dynamics of somatic dimensions. Quantity of each monthly sex/age group is about 100. Data borrowed from textbooks on physical development of children and adolescents, collected according to uniform methodical demands, hence absolutely unified and comparable. In order to minimize possible influence of ethnic and secular factors, samples are restricted by Russian urban samples, examined during late 1950s-1960s. Quantitative estimation of the value of SD is realized using Kullback divergence, analogue of Makhalanobis distance. Common for the whole pool of analysed territorial groups increase of SD of body dimensions through the first trimester of the first year of life is fixed in connection with more active growth processes of boys. The increase of differences of SD values between samples is shown through second and third trimesters. The greatest increase

of the levels of SD is fixed for the samples from big cities, the minimal increase for small provincial towns. As to associations of sex differences with latitude, raises of height of girls in cold climate (Arkhangelsk) are behind from the same velocities of boys, but sexual differences in fatness (body mass) are modest. Vice versa, in hot climate (Ashkhabad) boys get ahead of girls in increasing of fatness, while sex differences in height are small. Such combination of age dynamics of height and weight witnesses to expressed leptosomy of boys in the north as compared to girls and alternative brachisomy of boys in the south. The results allow to postulate more expressed macrosomization of boys in big urban agglomerations with high level of urbanization, which results in SD increase. There are sex differences in dynamics of body form in leptosomy-brachisomy coordinate in connection with latitude through the second and third trimesters of the first year of life.

Keywords: anthropology; auxology; children of the 1 year of life; sexual differences; height, weight and girths; macrosomization of body built; variability in leptosomy-brachisomy coordin

THE USE OF AN INTERACTIVE WHITEBOARD IN THE EDUCATIONAL ACTIVITIES OF FIFTH GRADERS. HYGIENIC ASSESSMENT

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Abstract. The use of an interactive whiteboard (ID) increases educational motivation and emotionally activates the educational activity of 5th grade students: 82.4 % of schoolchildren like the lesson more than the traditional lesson without using ID; 83.2 % of fifth graders surveyed noted that the lesson with ID is more interesting; for 68.1 % it is more understandable, visual. 71.4 % of fifth graders said that they get tired after lessons with ID less than after regular lessons. At the same time, 18.5 % of schoolchildren were more tired after lessons with ID than after traditional lessons, 21.0 % of respondents had tired eyes, 15.1 % had neck and back, 14.3 % had a headache, 17.6 % of schoolchildren had fatigue. A comparison of two variants of lesson organization (with ID and without ID) according to the distribution of individual shifts in mental performance showed that with the same lesson density after lessons with ID, students have a higher percentage of fatigue and pronounced fatigue (respectively 10.9 and 23.6 % versus 6.1 and 15.8 %). This feature was manifested mainly in girls.

Keywords: 5th grade students, interactive whiteboard, psychoemotional state, mental performance.

PSYCHOPHYSIOLOGY RELATIONSHIP AMONG THE EFFICIENCY OF DIFFERENT TYPES OF ATTENTION, SCREEN USE, AND ACADEMIC PERFORMANCE IN CHILDREN AGED 10-12 YEARS

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ABSTRACT: Relationship among the Efficiency of Different Types of Attention, Screen Use, and Academic Performance in Children aged 10-12 years. In the present study, we investigated the relationship among screen use, academic performance, and the efficiency of selective, divided, and sustained attention in children aged 10-12 years. We assessed the efficiency of different types of attention by means of computerized tests developed in our previous study. We also created an online questionnaire to analyze the duration, frequency and purpose of screen use. The study was conducted in a school setting. Academic achievement scores were provided by class teachers. A total of 67 children (35 male, 32 female) aged $11,175 \pm 0,702$ years participated in the study.

Keywords: selective attention, divided attention, sustained attention, screen use, computerized test battery, Go/NoGo, SRT, Flanker task.

REVIEW FACTORS AFFECTING THE PHYSICAL DEVELOPMENT OF CHILDREN

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ABSTRACT. The study of physical development as one of the main criteria for the health status of children and adolescents is listed by world science in the list of urgent problems. Studies on the study of physical development are numerous, since they assume a wide coverage of the population not only of one country, but also of many countries of the world. The time has come for systematization and ordering of existing publications. For this purpose, this analytical review has also been compiled.

Keywords: physical development, body weight, body length, development trends, markers of well-being.