

# Increasing the psychophysical state of children of primary school age by means of stretching with wushu elements

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PhD, Associate Professor **A.V. Korichko**<sup>1</sup>

**A.V. Rotar**<sup>1</sup>

<sup>1</sup>Nizhnevartovsk State University, Nizhnevartovsk

Corresponding author: alexey.korichko@gmail.com

## Abstract

**Objective of the study** was to improvement of the psychophysical state of children of primary school age by means of stretching with wushu elements.

**Methods and structure of the study.** Children 9-10 years old took part in the pedagogical experiment. The initial level of physical fitness, the degree of workability and mental stability of children of primary school age were preliminarily determined, the features of their psycho-emotional state were revealed. In the course of the study, a program was developed based on the integration of elements of stretching and wushu. To prevent adverse effects on the health of younger schoolchildren (development of asymmetry in the sagittal plane, muscle imbalance), all developed complexes were designed for "mirror" stretching of all departments of the musculoskeletal system.

**Results and conclusions.** The use of stretching with wushu elements in the system of physical education of children of primary school age has a positive effect on the level of physical fitness, as evidenced by the positive dynamics in most of the proposed tests. The positive influence of stretching with wushu elements on the working capacity of those involved was traced. An increase in the efficiency of work and mental stability of children aged 9-10 was noted, which undoubtedly has a positive effect on the quality of classes.

**Keywords:** *stretching, psychophysical state, physical fitness, children aged 9-10.*

**Introduction.** Very often, increased cognitive load is the cause of the stressful state of schoolchildren. This is reinforced by the immobility of students - there is a tendency to increase in physical inactivity, the motivation for motor activity decreases in children, which implies a violation and destabilization of their psychophysical state [2,4].

The development of flexibility in children of primary school age is considered by experts to be one of the most effective methods of improving the body, contributing to normal physical development. Exercises for the development of flexibility help strengthen the musculoskeletal system and prevent injuries, contribute to the development of coordination of movements. It is complex coordination exercises that most positively affect the psychophysical state of children [1,3].

**Objective of the study** was to improvement of the psychophysical state of children of primary school age by means of stretching with wushu elements.

**Methods and structure of the study.** The pedagogical experiment, in which children aged 9-10 participated, was conducted on the basis of the Municipal budgetary educational institution "Secondary School No. 43" in Nizhnevartovsk. The initial level of physical fitness, the degree of workability and mental stability of children of primary school age were preliminarily determined, the features of their psycho-emotional state were revealed.

Based on the data of scientific and methodological literature, we have developed a program in which suitable exercises from two types of sports activities are integrated into a single system, their sequence and dosage are built, including elements of stretching and wushu [4,5].

The training program included a set of passive and active exercises, which were practiced in the context of a training session, where exercises aimed at increasing the range of motion were taken as the basis.



Experimental classes lasting 1 hour were held three times a week as part of extracurricular activities. The program of each lesson included 10-15 exercises that develop flexibility.

To prevent adverse effects on the health of younger schoolchildren (development of asymmetry in the sagittal plane, muscle imbalance), all developed complexes were designed for "mirror" stretching of all parts of the musculoskeletal system. During the classes, the basic elements of the sport of wushu-taolu were periodically learned and practiced. The main task at the same time was the awareness and implementation of the underlying principle of individual elements by younger students, without excessive requirements for technical performance.

**Results of the study and their discussion.** To evaluate the effectiveness of the proposed program, upon completion of the pedagogical experiment, a repeated testing of the level of physical fitness and psycho-emotional state of junior schoolchildren was carried out, and the following changes were revealed (Tables 1, 2, 3). Thus, positive changes were found in the level of physical fitness of children aged 9-10 years (Table 1), and the greatest changes were achieved in the tests of flexibility, coordination of movements, as well as in the manifestation of speed-strength qualities ( $p < 0.05$ ).

This fact is a consequence of the content of the applied experimental program, which was based on exercises for the development of joint mobility and coordination, evidence of compliance with all the main

criteria and principles during the experiment, in particular, the degree of dosing of the load and the direction of the exercises. In addition, the training program took into account the possible negative impact of flexibility with an excessive increase in the amplitude of passive movement on the development of speed-strength qualities.

To study the influence of the developed program on the properties of attention in children, we used the method of A.Yu. Kozyreva, where the main criteria are: work efficiency, degree of workability and mental stability.

The results presented in table 2, indicate an increase in work efficiency and mental stability of the studied contingent following the results of experimental classes, as evidenced by a decrease in the time for completing the proposed tasks.

The degree of workability has no statistics of significant changes, it is stable, is at a good level, which can be associated with the active attitude to work involved in all stages of the experiment. Minor fluctuations may be due to the psycho-emotional and physical state of children at the time of testing, which complicates an objective assessment.

In table 3 shows the results of diagnostics of the operational assessment of well-being, activity and mood of the control and experimental groups before and after the pedagogical experiment.

Criteria for evaluation:

1-4 points - low level - unfavorable degree of assessment of one's condition.

**Table 1.** The level of physical fitness of children 9-10 years old before and after the experiment

Tests	Experiment steps		
	Before	After	p
Flexion and extension of the arms in the lying position	9,25±3,79	10,5±3,41	>0,05
Standing long jump, cm	143,35±12,55	154,05±12,94	<0,05
Run 30m, s	5,86±0,45	5,52±0,42	>0,05
Shuttle run 3x10m, S	9,41±0,59	8,29±0,65	<0,05
Tilt forward from a standing position, cm	6,55±2,96	12,3±3,85	<0,05

**Table 2.** Levels of attention concentration according to the Schulte method in children 9-10 years old before and after the experiment

Tests	Experiment steps		
	Before	After	p
Efficiency	47,69±9,63	42,66±7,78	<0,05
Degree of workability	1,00±0,09	1,00±0,09	>0,05
Mental stability	1,01±0,08	0,96±0,07	<0,05

**Table 3.** *The level of psycho-emotional state of children 9-10 years old before and after the experiment*

Evaluated Criteria	Experiment steps	
	Before	After
Well-being	4,6	5,91
Activity	4,59	4,8
Mood	4,7	4,89

4-5 points - the minimum acceptable, sufficient level of assessment of one's condition.

5-5.5 - the optimal level of assessment of their condition.

5.5-6 - a high level of assessment of their condition.

6-7 - a very high level of assessment of their condition.

According to the results presented in table 3, it can be seen that the optimal state level was obtained by assessing one's own well-being, which, in our opinion, is a consequence of the increase in physical condition and psycho-emotional state of younger students upon completion of the proposed training program.

**Conclusions.** The use of stretching with wushu elements in the system of physical education of children of primary school age has a positive effect on the level of physical fitness, as evidenced by the positive dynamics in most of the proposed tests. The positive impact of stretching with wushu elements on the performance of those involved has been traced. An increase in the efficiency of work and mental stability of children aged 9-10 was noted, which undoubtedly has a positive effect on the quality of classes.

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