



Influence of yoga on the memory of practitioners

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Abstract

Objective of the study was to study the effect of yoga classes on the characteristics of short-term and long-term memory in female students.

Methods and structure of the study. 42 2nd year students of the Russian State Hydrometeorological University took part in the experiment. The girls were asked to memorize the list of spoken words and, if possible, reproduce it before and after physical activity; the number of words remaining in memory was also counted after one week. Thus, it was experimentally proved that the type of motor activity is not a statistically significant factor in the process under study in the field of short-term memory, however, with delayed reproduction, the memory capacity of female students who practice yoga is statistically significantly higher.

Keywords: *yoga, general physical training, physical activity, memory*

Introduction. Modern rapidly changing economic and geopolitical conditions lead to ever-increasing requirements for the competitiveness of a future specialist, dictate the need to modernize the content of educational programs [2, p.35; 6, p.189].

Regular and full physical activity helps a person not only to keep himself in good physical shape, but also, having an impact on the psycho-emotional state, affects his thinking and memory [1, p. 58; 2, p.36; 3, p. 82]. In the last decade, special attention has been paid to the study of the influence of physical culture and sports on mental performance, without affecting the most complex function - memory.

As part of the implementation of the discipline "Elective disciplines in physical culture and sports", the most popular classes are oriental health practices [5, 233; 6, p. 190]. Most often, students choose yoga, considering such classes to be low-intensity, but at the same time effective, as many note that the regular

performance of asanas contributes to the development of coordination of movements, improves posture and the level of physical fitness, and also allows them to concentrate, concentrate and calm down as much as possible [4, p. 184; 5, p. 233].

In this regard, the purpose of our study is to study the effect of yoga classes on the characteristics of short-term and long-term memory in female students.

Methods and structure of the study. The study was conducted in 2021/2022 academic year. The experiment involved 42 2nd year students of the Russian State Hydrometeorological University, of which 21 girls in the experimental group (EG) engaged in yoga, and in the control group (CG) - 21 girls engaged in general physical training.

Registration of the studied indicators was carried out on the same day of the week in accordance with the training schedule immediately before and after classes in the discipline "Elective disciplines in physi-



cal culture and sports”. A total of 6 examinations were performed (one per month).

In the first week of the month, the students participating in the study were asked to listen, memorize and then reproduce as many words from the list as possible before and immediately after the load, and exactly a week later the number of words remaining in memory in the CG and EG was checked. Words were selected taking into account the difficulty of establishing a relationship between them; different sets of words were offered before and after the load. As a load, dynamic, medium-intensity sets of exercises and asanas were used.

Results of the study and their discussion. According to the results of the installation experiment presented in Fig. 1, it was decided to additionally allocate subgroups in the already formed groups due to a fairly pronounced difference in memory indicators:

- remembering 75% or more of the presented words - (1);
- remembering about 50% of the proposed words - (2).

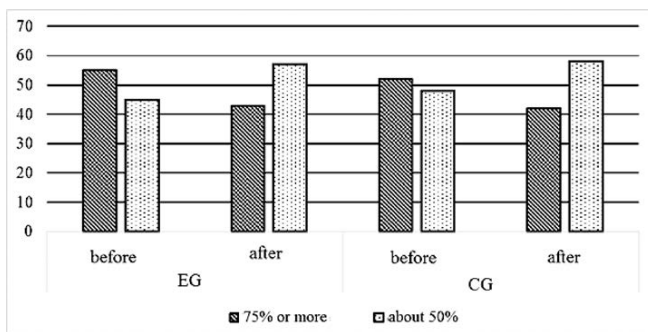


Figure 1. Indicators of short-term memory before and after physical activity in the EG and CG

Table 1 shows the comparative average indicators of memory function in female students involved in

yoga, and female students from the group of general physical training. It is also necessary to note the following regularity: against the background of the general trend of a decrease in the number of words reproduced immediately after the load, about 15% of the subjects consistently memorized more words in each subsequent examination.

As can be seen from Table 1, in the field of short-term memory there is only a tendency for the results to decrease in both groups after the load, and in the field of long-term memory, the differences before and after the load become statistically significant. Thus, in the field of long-term memory, in 46.8% of cases, a more complete amount of memorization and subsequent reproduction of the material offered before the load was revealed. In 35% of cases, the volume of the reproduced material did not depend on time, and only in 18.2% of cases the delayed reproduction of the material offered after the load was more complete than before the load.

Table 2 shows that almost 50% of the subjects noted an interfering effect from the effects of physical activity when memorizing verbal material in the field of short-term memory.

Conclusions. As a result of the study, it was found that the effect of physical activity on the volume of memorized verbal material decreases after the load during direct reproduction (immediately after the load), and especially during delayed reproduction (a week later, immediately after the load). The studied influence of the type of motor activity is not a statistically significant factor in the studied process in the field of short-term memory, however, with delayed reproduction, the memory capacity of female students who practice yoga is statistically significantly higher. There are reasons to believe that a more complete memory capacity, recorded in the experiment in the

Table 1. Mean measures of short-term and long-term memory before and after exercise

Subjects	Direct playback before and after loading		Delayed playback before and after loading	
	before (number of words)	after (number of words)	before (number of words)	after (number of words)
EG (1)	16,8	15,8	5,2	6,9
CG (1)	16,7	16,5	6,9	3,4
EG (2)	16,0	15,7	4,8	3,5
CG (2)	15,5	14,1	5,0	3,1

Note: (1) - a subgroup that remembers 75% or more of the words, (2) - a subgroup that remembers about 50% of the words, also in Table 2.



Table 2. Subjective assessment of the influence of physical activity on the efficiency of memorizing verbal material in the field of short-term memory

Subjects	Subjective assessment after exercise (%)		
	better	worse	no difference
EG (1)	30	43	27
CG (1)	18	48	34
EG (2)	30	15	55
CG (2)	24	50	26

EG, is associated with lower energy expenditure and weaker emotional shifts than in the CG. The subjective assessment of the difficulty of memorization generally coincides with the established objective trend of a decrease in the volume of the proposed material after the load, however, there is an unusual ratio due to the peculiarities of the neurodynamics of the subjects.

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