https://doi.org/10.48047/AFJBS.6.8.2024.1717-1721

African Journal of Biological Sciences

Research Paper Open Access

COMPARATIVE ASSESSMENT OF THE PSYCHOPHYSIOLOGICAL STATE (ATTENTION) OF STUDENTS DEPENDING ON THE ORGANIZATION OF NUTRITION

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Article History

Volume 6,Issue 8, 2024
Received:26 Mar 2024
Accepted : 29 Apr 2024
doi: 10.33472/AFJBS.6.8.2024.1717-1721

Abstract. It was determined that students aged 7-10 years spent 1.9 times more time switching attention than students aged 11-15 years in both groups with different school meal schemes (139.3±0.90 seconds versus 264.3±1.39 seconds; P<0.05). According to the results of the assessment of attention stability, it was found that the accuracy coefficient of task completion in students of the 1st group was 1.5 times higher than in students of the 2nd group of children aged 7-10 years (0.60±0.04 vs 0.40±0.01; R<0.001) and 1.4 times higher in children aged 11-15 years (0.55±0.04 against 0.40±0.01; R<0.001).

Keywords. Students, catering, groups 1 and 2, attention switching, attention stability

Introduction. Despite the active policy of improving children's nutrition in recent years, changes in the quality of food products cause changes in children's health, especially in the nervous system and mental state [8,10]. Proper organization of school meals of students helps to increase their learning potential and mastering lessons [7]. During the transition from childhood to adolescence, the increase in mental loads leads to changes in the neuroendocrine system. In order for a teenager to maintain a stable emotional activity in the process of adaptation and various factors, they need to eat optimally [4].

A nutritious diet supports a child's growth and development, including psycho-physiological and academic abilities [6]. It is known that optimal provision of vital proteins, vitamins and trace elements to children during growth determines their normal development of their mental and physiological condition [2]. The intensity of the current modern educational process is a load on the students' organism, first of all on the central nervous system, and leads

to changes in the mental status . At the same time, junk food is observed with their rapid fatigue, decreased concentration [3, 1, 9, 5, 1].

The purpose of the study. It was a comparative hygienic assessment of the attention shift and attention stability of the students of the general education school with different meals.

Research materials and methods. The results of 432 students from 7 to 15 years of age in public schools of Tashkent city were obtained. The Schulte-Platonova numerical chart was used to determine the level of children's attention. Stability of attention B. Anfimov's chart was used for the determination of children aged 7-8 years, with letters for children aged 9-15 years. Statistical processing of the obtained research results was determined by the Student -t criterion based on a special computer program.

Research results and discussion. The results of the research showed that attention shifting in students (A) time spent by students aged 7-10 years to find ordinal numbers in the correct sequence from a number table (43.9±4.53 seconds vs. 51.2±5.10 seconds) 11- 1.2 times more time compared to 15-year-olds; and the time (V) spent in the reverse sequence (52.1 ± 4.56 seconds vs. 65.7 ± 4.85 seconds; r<0.05) was recorded 1.3 times more.

This is the case in terms of the time (S) spent to find the numbers in the table that are not arranged in order (black numbers in the correct order, and red numbers in the opposite order) in 7-10-year-old students (235.2±1.17 seconds vs. 335.2±1 .67 seconds; r<0.001) it was observed that they spent 1.4 times more time compared to 11-15 year olds. 7-10-year-old students spend 1.9 times more time than 11-15-year-old students on general attention shift (T) (139.3±0.90 seconds vs. 264.3±1.39 seconds; r<0.05) observed.According to the results of the research, the attention shift in students 7-10 years old group 2 students spent (A) time to find ordinal numbers in the correct sequence from the number table (47.1±5.09 seconds vs. 55.3±5.07 seconds) 1.2 times more time than those in group 2; and the time (V) spent on the reverse sequence (58.2 ± 5.03 seconds vs. 73.3 ± 4.52 seconds; r<0.05) was found to be 1.3 times more.In this case, the students of group 2 also spent more time (S) to find the numbers in the table that are not arranged in order (black numbers in the correct order, and red numbers in the opposite order) (303 ± 1.78 seconds vs. 367.5 ± 1, 38 seconds; r<0.001) was observed to spend 1.2 times more time than those in group 1. 7-10-year-old students spent 1.9 times more time on total attention shift (T) than those in group 1 (197.7±5.3 seconds vs. 238.9±6.6 seconds; r<0.001) was observed (Fig. 1).

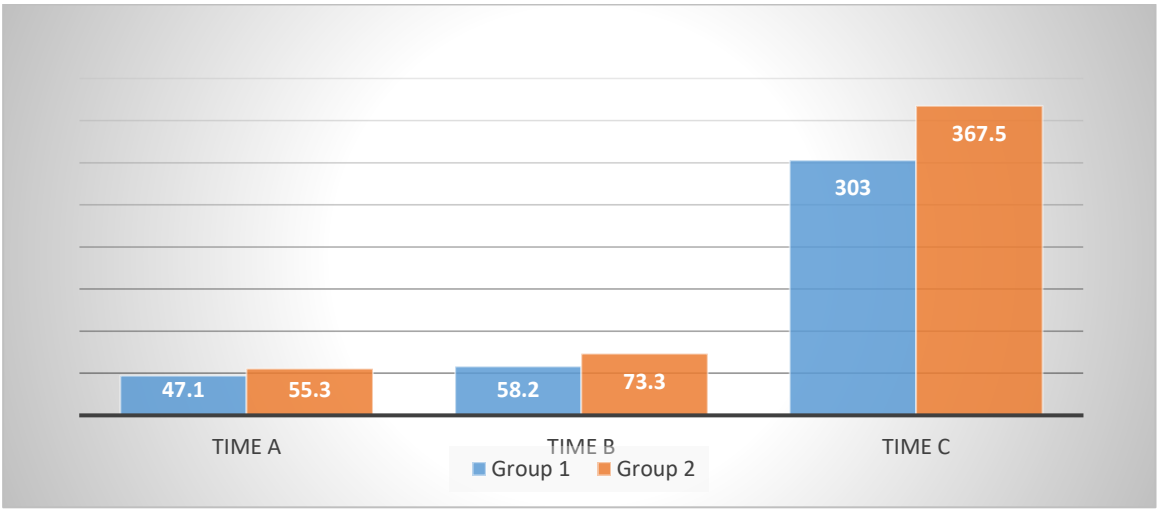

Figure 1. 7-10-year-old students' attention span, seconds

The time (A) spent by the students of the 2nd group aged 11-15 years to find the numbers in the correct sequence from the number table (40±4.47 seconds against 47.9±4.56 seconds) 1.2 times more time than those in the group; 1.2 times more time spent in reverse sequence (V) was found (48.5±4.56 seconds vs. 55.7±4.53 seconds).

In this case, the students of group 2 also spent less time (S) to find the numbers in the table that are not arranged in order (black numbers correctly, and red numbers in reverse order) (200.3±13.17 seconds vs. 270.6± 14.82 seconds; r<0.001) it was observed that they spent 1.4 times more time than those in group 1. It was observed that students in group 2 (111.8±3.3 seconds vs. 166.9±5.7; r<0.001) spent 1.5 times more time than those in group 1 in terms of total attention shift (T) of students aged 11-15 years. (Figure 2).

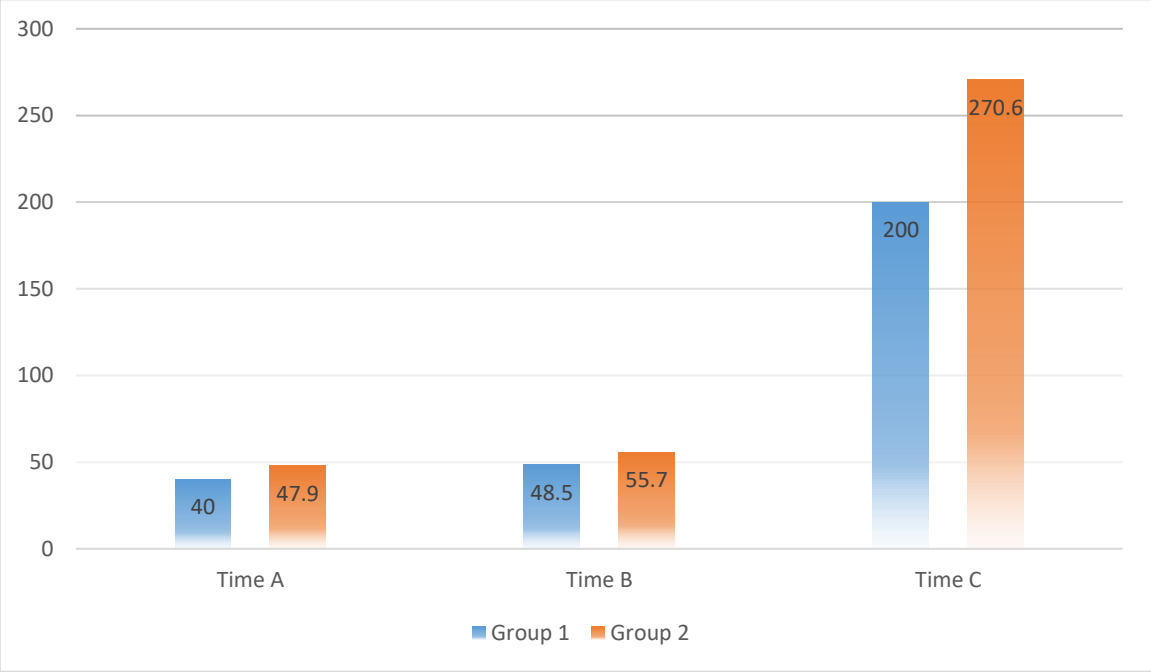

Figure 2. 11-15-year-old students' attention span, seconds

When the stability of attention in students is analyzed by age groups, one of these indicators is the accuracy coefficient of the completed task (A), and this indicator in students aged 7-10 years (0.55±0.04 vs. 0.40±0.01) in 11-15 years old was almost the same level as the students.

The coefficient of mental productivity (R) was found to be 2.1 times higher in students aged 11-15 (167.3±5.34 vs. 356.5±6.76; p<0.001) than in students aged 7-10.

Regarding the volume of visual information (Q), 11-15-year-old students prevailed (110.3±3.57 vs. 235.3±5.15; r<0.001) by 2.1 times more than 7-10-year-old students.

The speed of information processing (V) was 2.2 times higher in students aged 11-15 (0.82±0.02 versus 1.8±0.04) than in students aged 7-10.

According to the results of the study, one of the main indicators during the comparative analysis of students' attention stability by groups is the coefficient of accuracy of the completed task (A), and this indicator in students of the 1st group of 7-10 years old (0.60±0.04 against 0.55±0.04) the In both groups of students aged 11-15, it was at the same level, i.e. 0.40±0.01.

The coefficient of mental productivity (R) is 1.2 times higher in students of group 1 aged 7-10 (151.1±4.13 vs. 183.4±6.55; p<0.001) than in group 2; It was also found to be 1.2 times higher in students of the 1st group aged 11-15 years (322±6.53 vs. 391.1±6.99; r <0.001).

The amount of visual information (Q) is 1.1 times higher in students of the 1st group aged 7-10 years (105.5±3.04 vs. 115.2±4.11); 11-15-year-old group 1 students prevailed (213.2±4.91 vs. 257.4±5.40; r<0.001) by 1.2 times more.

The rate of information processing (V) in students of group 1 aged 7-10 (0.76±0.02 vs. 0.89±0.03) is 1.2 times higher than in group 2; This indicator was also characterized by 1.3 times higher in students of the 1st group aged 11-15 years (1.6±0.04 vs. 2.0±0.04).

As can be seen from the above results, the accuracy coefficient (A), mental productivity coefficient (R), volume of visual information (Q), and information processing speed (V) of the students of the 2nd group of all ages were lower than those of the 1st group.

Conclusions:

1. Attention shift in group 1 students compared to group 2 students in 7-10 years old (197.7±5.3 seconds vs. 238.9±6.6 seconds; r <0.001) and 1.5 times in 11-15 years old twice as high (111.8±3.3 seconds vs. 166.9±5.7 seconds; r <0.001).

2. It was observed that students aged 7-10 spent 1.9 times more time compared to 11-15-year-olds in terms of general attention shift of students in both groups (139.3±0.90 seconds vs. 264.3±1.39 seconds; r<0.05). .

3. According to the results of determining the stability of attention, the accuracy coefficient of the task performed by the students of the 1st group is 1.5 times higher than that of the students of the 2nd group at the age of 7-10 (0.60±0.04 vs. 0.40±0.01; r <0.001). 1.4 times more (0.55±0.04 vs. 0.40±0.01; r <0.001) was found in 11-15-year-olds.

4. The coefficient of mental productivity is 1.2 times higher in students of group 1 compared to those in group 2 at all ages (282.7±6.77 vs. 236.5±5.33 r <0.001) and the volume of visual information, speed of information processing 2 It was relatively low in students of the -group.

References

1. Zaitseva N.V., Ustinova O.Yu. Risk-associated health problems among primary school students in school educational institutions with an increased level of intensity and intensity of the educational process //Health Risk Analysis. - 2013 - No. 1 - P.66-80.

2. Kodentsova V.M., Gromova O.A., Makarova S.G. Micronutrients in children's nutrition and the use of vitamin-mineral complexes // Pediatric pharmacology. – 2015 - No. 5 - P.537-542.

3. Lamazhapova G.P. Physiology of nutrition. //Tutorial. – Moscow, 2016. - 146 p.

4. Lear D.N., Perevalov A.Ya. Analysis of actual home nutrition of preschool and school-age children living in the city // Issues of nutrition. – 2019. - Volume 88. - No. 3. - P. 69-70.

5. Nevskaya E.V. Development of technologies for bakery products for baby food and correction of nutritional status disorders: Abstract of thesis. dis. ...cand. those. Sciences - Moscow. 2011. – 26 p.

6. Polyashova A.S. Assessment of the nutritional status of children of primary school age and justification of measures to optimize it: Abstract of thesis. dis. ...cand. honey. Sci. - Nizhny Novgorod. 2005. - 25 p.

7. Soltan M.M., Borisova T.S. Hygienic requirements for the organization of nutrition for children and adolescents // Educational and methodological manual. - 2017. - 69 p.

8. Tapeshkina N.V., Popkova L.V. Nutrition in preschool institutions //Hygiene and Sanitation. - 2016 - No. 2 - P. 203-206.

9. Ustinova O.Yu., Zaitseva N.V. To the task of substantiating the optimal parameters of risk factors in the educational environment of school-age children according to the criteria of anthropometric, psychological characteristics and somatic health // Health Risk Analysis. - 2022. - No. 2. - P. 48-61.

10. John CC, Black MM Neurodevelopment: The Impact of Nutrition and Inflammation During Early to Middle Childhood in Low Resource Settings. Journal Pediatrics. 2017;1:59 - 71.