

# THE USE OF MARTIAL ARTS MEANS IN THE DEVELOPMENT AND SOCIALIZATION OF CHILDREN WITH AUTISTIC SPECTRUM DISORDER

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**Abstract:** *This study aims to examine the role of martial arts in the development and socialization of children with autistic spectrum disorder. To study this problem, we researched the opinions of respondents and specialists in various fields. A total of 113 people took part in the survey. The analysis of the survey results showed that the level of knowledge about autism is medium, a good part of the respondents (78.57%) mentioned that they are familiar with the methods (means) used in the rehabilitation process of people with autism. The therapeutic methods and types of concrete martial arts that can be recommended for people with disorders caused by autism were highlighted. In conclusion, integrating children through the means of martial arts will allow them to gain confidence in themselves, in their own strength, as well as to coordinate, control separate segments of the body while performing the movements from the simplest to the most complicated.*

**Key words:** *motor activity, martial arts, autism, survey.*

## 1. Introduction

The modern field of pedagogical activity has a sufficient methodological arsenal to provide specialists in physical culture and sports with both theoretical and empirical research, including a system of interrelated scientific approaches, methods and principles of their implementation, which constitute their professional competence. The field of physical education and sports is one of the components of the general culture of the individual, as well as lifestyle and behavior

in society, which contributes to the solution of psychosocial, educational, recreational and rehabilitation problems [9]. With the help of organizational forms, systems of physical exercises from various sports, the personal and psychosocial interests of people are extremely balanced, which contributes to the formation of a stable psychological climate in society [7].

Numerous studies in this area confirm that for normotypical people, physical activity is a common need that is realized on a daily basis, but for people with

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special health needs it is a vital necessity that transforms the strongest positive effect of psychosocial adaptation into society [16]. Since ancient times, a conscious desire for physical improvement could be observed in the process of human survival, this was manifested in obtaining food, settling territories, overcoming enormous distances, which contributed to the accumulation of knowledge, skills and capabilities of the human population in physical improvement [1].

Based on the analysis of modern publications in the last decade, we can note a number of scientific works, the purpose of which is to identify the main trends and promising directions in various fields aimed at studying adaptation processes that are directly related to the social activity of different segments of the modern society population [1].

In this process, organizational forms of health, physical education and sports activities deserve special attention, reflecting a mass phenomenon that involves the sphere of its influence, even with varying degrees of activity, the majority of members of society from different segments of the population [15].

Recently, we can observe the participation of persons with special needs in various recreational, physical education and sports activities, including elite sports [8].

The system of martial arts is no exception, which can be considered as one of the forms of psychosocial adaptation, playing an important role in increasing the level of functional abilities, developing volitional, moral and intellectual qualities, as well as the formation and restoration of the social status of the individual, contributing to the achievement of material independence in society [5], [12].

We can observe an evolution in the need to develop a system of inclusive sports education for the psychosocial adaptation of persons with disabilities, with special needs, on the territory of the Republic of Moldova as well. This is evidenced by the Regulations on the organization and activities of sports schools, approved in 2019 by Decree of the Government of the Republic of Moldova No. 31, paragraph 22, which provides for the registration of people with special needs in sports activities [14]. Therefore, the development of an inclusive sports education system using the example of various types of wrestling, in particular martial arts, is a long-term strategy that requires an integrated approach for its implementation.

## **2. Objectives**

This study is aimed at studying the current state of integration of persons with special needs, especially children with autism spectrum disorder, through various forms of physical education, recreation and sports activities, in particular, identifying the role of various types of martial arts in their development and socialization.

## **3. Material and Methods**

Scientific works, doctoral and master's theses, scientific and methodological manuals, publications in materials of international conferences and journals devoted to various areas of studying the integration of persons with special needs with various forms of physical education, health and sports activities, in particular martial arts, were used as research material.

Numerous modern studies in the field of medicine, pedagogy and special Psychopedagogy, a wide range of therapeutic techniques regarding developmental problems, health improvement through special motor activities for children with autism have been studied.

The research used methods: systemic and structural analysis of the content of literary data, a sociological survey, questionnaires. In the process of quantitative analysis of the results obtained by the method of sociological survey, methods of statistical data processing were used.

#### 4. Results and Discussions

The study of the research problem led to the identification of the fact that in recent years there is a significant increase of autism spectrum disorders with different etiology [2]. According to statistics, the

number of children with autism in the last 10 years has increased ten times (from 1 child to 1500 newborn babies in 2000 to 1 child to 150 newborn babies in 2010) [4]. According to the official information of the World Health Organization, in 2014 1 child out of 160 was affected by autism spectrum disorders. Even back then the World Health Organization had underlined the fact that the presented figures are statistically average and, in some studies, thoroughly verified, the real figures (effective) are considerably bigger.

According to the data offered by the "Focus on Health" international company, at the beginning of year 2019 the quantitative indices in some countries are the following: on the first place in Hong Kong where 372 out of 10 thousand children were diagnosed with autism. In other words, one in every 27 children in Hong Kong was diagnosed with this growing. Data are presented on the figure 1.

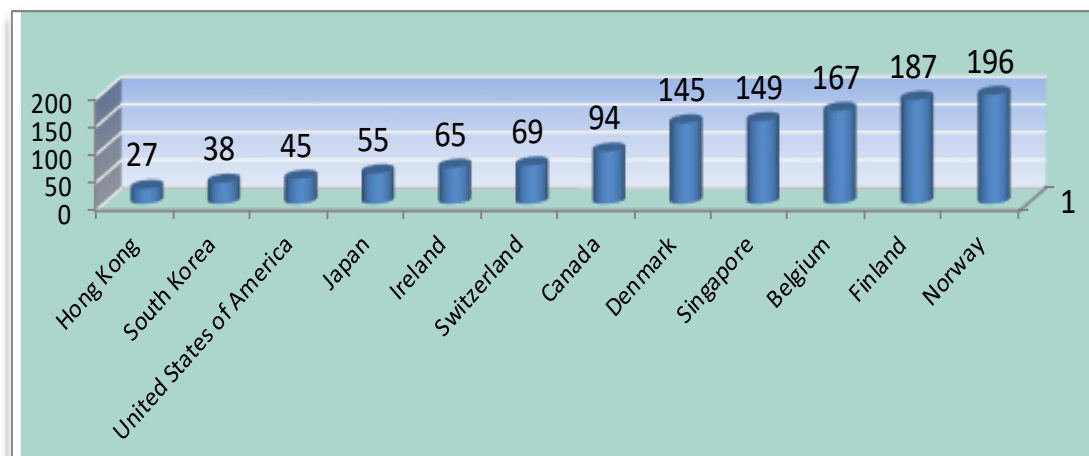


Fig. 1. *The data provided by the international company "Focus for health" on the number of children affected by autism disorders in the world*

In South Korea is registered the highest index of autism disorders: in this country

263 in every 10 thousand children or a child out of 38 were diagnosed with

“autism”. The United States of America occupy the third place with an index of 263 children for every 10 thousand children, or a ratio of 1 to 45 children.

Index dynamics of autism disorders in different countries:

1. Hong Kong: 1 child out of 27;
2. South Korea: 1 child out of 38;
3. United States of: 1 child out of 45;
4. Japan: 1 child out of 55;
5. Ireland: 1 child out of 65;
6. Switzerland: 1 child out of 69;
7. Canada: 1 child out of 94;
8. Denmark: 1 child out of 145;
9. Singapore: 1 child out of 149;
10. Belgium: 1 child out of 167;
11. Finland: 1 child out of 185;
12. Norway: 1 child out of 196.

The information (data) on the extension of the autism spectrum disorders in

countries with low and medium income is basically absent. It is only known for certain that the number of people with autism has a stable growth worldwide. That is exactly why it is impossible to identify the exact number of people with autism in Republic of Moldova. According to the information offered by the Ministry of Health [3] represented in figure 2, in 2012 about 157 people were diagnosed with autism, out of which children 144, in 2013 -220 people, children -191, 102016-366 people diagnosed with autism were under medical surveillance, out of which 349 were children; in 2019 there were 633 recorded cases of the autism spectrum disorder, out of which 603 were children. The number is continuously growing, at the present moment it is considered that there are 1000 people with autism.

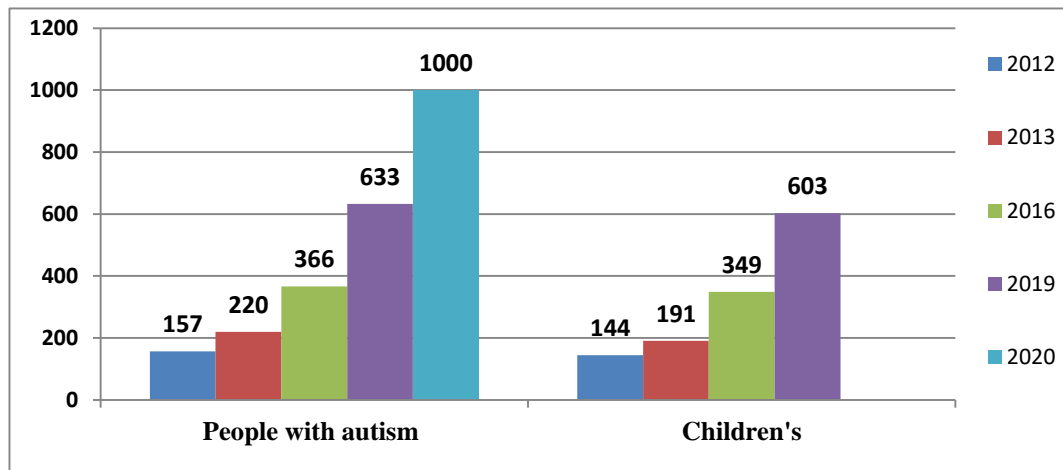


Fig. 2. Number of people with autism in Republic of Moldova in 2012- 2020

This tendency is a source of big concern, related to the unstudied nature of autism, impossible prophylaxis, problem of its correction, questionable effect of medicines and other factors. In a world where the number of people with autism that have difficulties with socialization and communication, is increasing annually, the

tempo of social development is decreasing and in future it could stimulate unpredictable negative social phenomena [13]. After the analysis of education and development of a child from 0 to 7 years, presented by national and international experts, it could be noted that movement and physical wellbeing are important

factors for brain development [6]. Many researches point out that the development of motor skills is closely related to speech development, cognitive processes, social and emotional competences that offer an individual the possibility to adapt to the world around him/her [17].

For a child with autism the formation of motor activity must be based, first of all, on the education of the ability to voluntarily organize the movements of

his/her own body and here the sport activity can play an important role in the development of his motor skills [11], [10].

For the appreciation of the given problem, we addressed the opinions of respondents, specialists in different fields. At the survey participated 113 respondents. We were interested to find out at what extent the given problem was known to the respondents. The analysis of the responses demonstrated that the level of knowledge on autism is medium (figure 3).

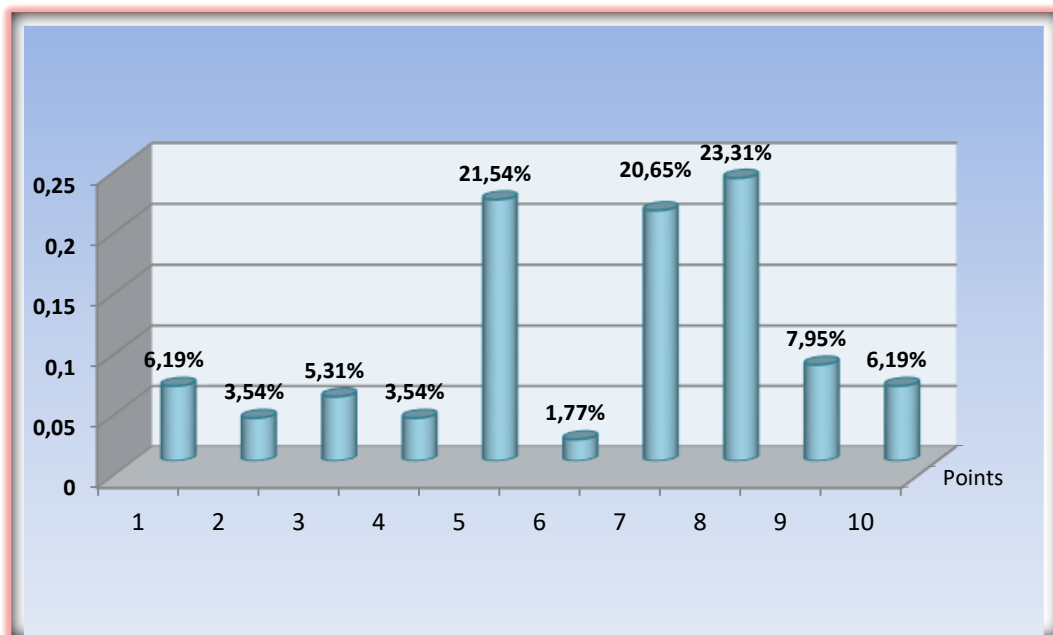


Fig. 3. *How would you rate your knowledge of children with developmental disabilities (Autism)?*

This gives us the right to continue researches, and the next question was oriented towards the study of methods/means used for rehabilitation of people with autism. The biggest part of respondents (78,57%) have noted that

they know the methods/means used for rehabilitation of people with autism, a negative response came from 12,86% respondents and 8,57% did not answer this question.

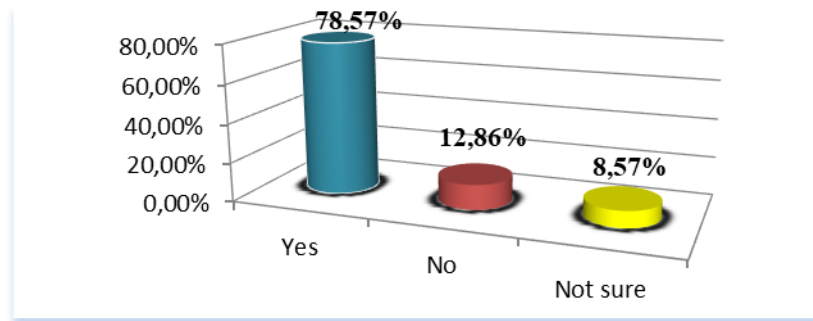


Fig. 4. *Do you know what methods/means are used in the rehabilitation of people with autism?*

It is well known that for a more effective work with special needs people the knowledge of therapeutic methods is necessary. That is why the following question was asked: "What therapeutic methods for motor rehabilitation of autistic children do you know?". In the first place the respondents indicated the

"Dance movement therapy" 48.67%, second place – "ABA therapy" – 26,55% and the third place – "3C therapy. Moreover, the other types of therapy were mentioned, "Art therapy" 1,77%, "Sensory integration", "Kinesiotherapy", «TEACCH» and others obtained 0,88% each (figure 5).

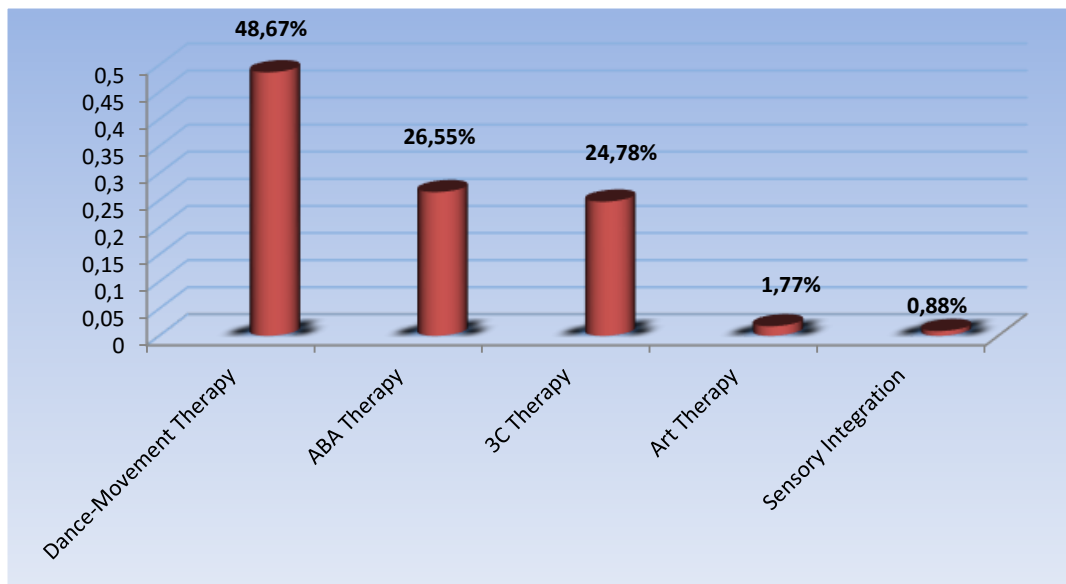


Fig. 5. *Types of sports which, according to respondents, can be used in the development and socialization of children with autism?*

Generally speaking, children with autism have reduced motor skills. Consequently, the therapeutic programs must be oriented towards the formation of basic motor skills, movement patterns and motor activity that increases physical competence, in day by day life by use of different types of sports [3].

For a more complex analysis of the role played by sport in this issue we asked the following question: "What types of sports, in your opinion, can be used for the

development and socialization of autistic children. As we can see in figure 6, the majority of respondents preferred "Swimming" – 46,02%, the second choice was "Team sports" – 40,708%, and the third place was offered to "Gymnastics", "Combat sports" took the fourth place out of seven presented (36,28%). The following sports have not been overlooked as well, "Horse back riding" - 21,24%, "Athletics" - 17,70% and "Table tennis" - 0,88%.

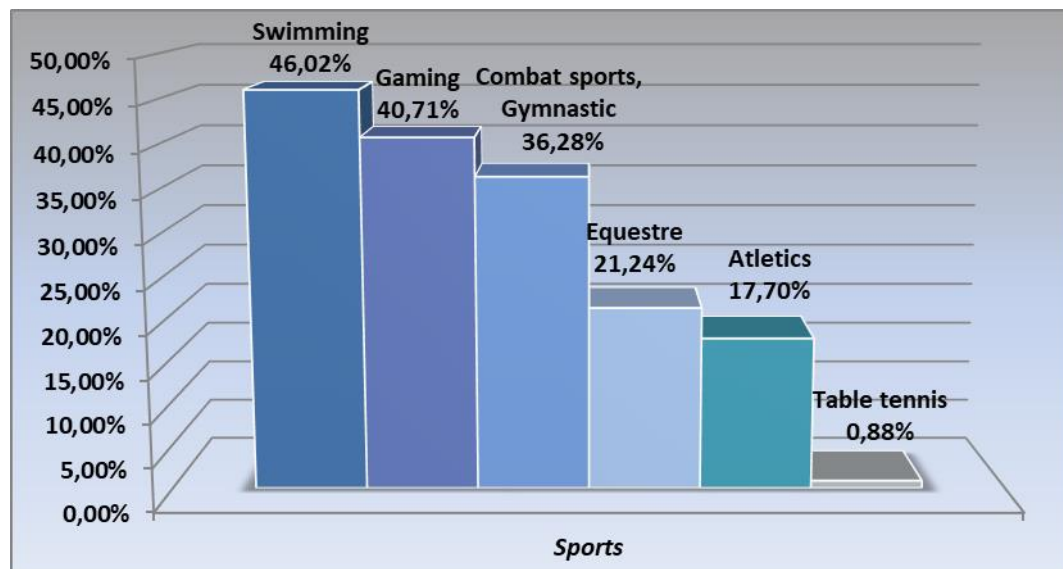


Fig. 6. *Types of sports which, according to respondents, can be used in the development and socialization of children with autism?*

This suggests that combat sports play an important role in the development and socialization of special needs children.

Continuing the analysis of the sociological survey, it was important for us to know "Can combat sports be used as rehabilitation and motor development means for people with ASD". Based on data presented in Figure 7, it is worth mentioning that the majority of respondents, 77% consider that the combat sports means can be included in

the rehabilitation and motor development program for people with ASD. In this regard, 17,69% respondents had difficulty answering and only 5,31% respondents answered "No".

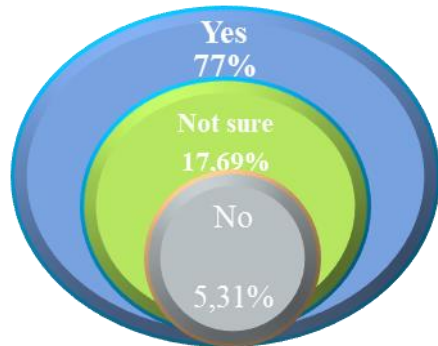


Fig. 7. *Can martial arts serve as a means of rehabilitation and motor development for people with ASD?*

This enhances the further researches in this direction and we had decided to propose the respondents to choose the types of combat that could be recommended to people with autistic spectrum disorder. That is why the respondents were offered the answer options presented in figure 8.

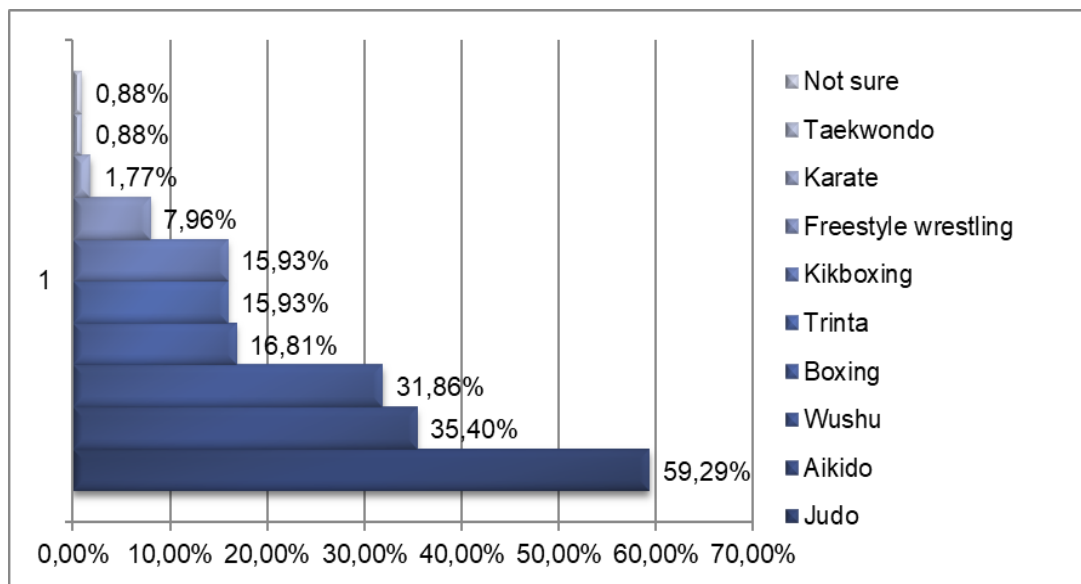


Fig. 8. *Types of martial arts that may be recommended for people with an autism spectrum disorder*

The respondent's opinions were distributed the following way: Judo occupied a priority place – 59,29%, Aikido – 35,40%, followed by Wushu -31,86, Box went to the fourth place- 16,81%, the fifth place was divided between, Trinta, national combat and Kickboxing, the sixth place was occupied by Freestyle wrestling-7,96% and the next place was occupied by

Karate – 1,77, the other combat sport that was not ignored is Taekwondo – 0,88%. Only 0,88% respondents had difficulty answering this question.

## 5. Conclusions

It can be noted the indisputable truth that the essential factors in the



development of the brain are movement and physical well-being. Numerous investigations indicate that the development of motor skills is closely related to the development of speech, mental processes, social and emotional skills that allow the individual to adapt to the surrounding world. In the given context, we can mark that the training of motor skills is logically included in the education of the ordinary child, who directly or indirectly, through communication with close people, including through motor activities, games builds their own representation of how their own life is arranged, begins to understand why he/she has to collect toys by himself, express his wishes clearly, greet others, including the elderly, say goodbye, when parting, etc. Therefore, summarizing, we must emphasize that in this work, full of efforts, searches, the emotional, affective connection with close people, the possibility of communication, including interaction through games, helps the preschool child to become aware of the events of his own life, to acquire and respect the rules that are at the foundation of human relations.

All children, including those with special needs, can benefit from exercise and the pure enjoyment of sports. Integrating children with martial arts will allow them to gain self-confidence, as well as coordination and control of body parts in performing movements from the simplest to the most complex, which require time, training and support. From walking, running, jumping, climbing, rolling, playing, to more complex operations in the process of confrontation, and such as writing, drawing, cutting or dressing and eating skills, it is a process full of challenges, but also success.

## References

1. Annenkova, S.V., Panachev, V.D., Opletin, A.A., et al.: *Influence of the adaptive physical training and sports on socialization of the individuals with limited physical abilities*. In: Journal of Human Sport and Exercise, 2021, 16 (4proc), p. 1746-S1757, DOI: 10.14198/jhse.2021.16.Proc4.21
2. Bănărescu, M., Draghici, E.: *Incluziunea socială a copiilor cu tulburări din spectru autist în Republica Moldova. Raportul tematic prezentat de avocat al poporului pentru protecția drepturilor copilului*. (Social inclusion of children with autism spectrum disorders in the Republic of Moldova. The thematic report presented by the people's advocate for the protection of children's rights). Chișinău, 2016, 24 p.
3. *Diagnostic and Statistical Manual of Mental Disorders*. Fifth Edition. American Psychiatric Association. (2013). <https://www.psychiatry.org/psychiatrists/practice/dsm> (Accessed: 02.04.2020)
4. Draghici, E.: *Raport tematic. Incluziunea socială a copiilor cu tulburări din spectrul autist în Republica Moldova (Thematic report. Social inclusion of children with autism spectrum disorders in the Republic of Moldova)*. Chișinău, 2016, p. 58-60.
5. Gligor, V., Polevaia-Secareanu, A., Demcenco P.: *State of functional, motor and psychological abilities of the high class judoists with limited visual ability during the precontest period*. In: International Scientific Conference, VI<sup>nd</sup> edition Trends and Perspectives In Physical Culture And Sports Suceava 26th – 27th of May 2016, p. 186-193.

6. Kokun, O., Imas, Y., Vovkohon, A., et al.: *Physical education and sports as a tool for formation of students' psychophysiological readiness to their professional work*. In: Journal of Physical Education and Sport, 18(2), Art 143, 2018. p. 966 - 971. [DOI:10.7752/jpes.2018.02143]
7. Mukhamedyarov, N.N.: *Analysis of types of physical culture in modern society* In: Journal Modern problems of science and education. 2018, No 4. p. 23-23. Available at: <https://science-education.ru/ru/article/view?id=27753> Accessed: 11.02.2023.
8. Murphy, N.A., Carbone, P.S.: *Promoting the Participation of Children with Disabilities in Sports, Recreation, and Physical Activities*. In: Pediatrics, Vol. 121, no 5, 2008, p.1057-61. DOI:10.1542/peds.2008-0566
9. Nikiforov, D.E.: *Influence of adaptive sports on social integration and adaptation of children with disabilities*. In: Adaptive Physical Culture, No. 2, 2015, p. 70-75.
10. Plaksunova, E.V.: *A Study of motive sphere of students with autism*. In: Physical culture: upbringing, education, training, no. 6, 2010, p. 65-67.
11. Plaksunova, E.V.: *Researching physical development and motor skills in students with autism spectrum disorders*. In: Autism and developmental disorders. 2014, No. 1 (42), p. 26-32.
12. Polak, E., Sikora, J., Rachwa, M.: *An aikido-based intervention supporting the therapy of a child with autism spectrum disorders – a case study*. "IDO MOVEMENT FOR CULTURE". In: Journal of Martial Arts Anthropology", 2019, Vol. 19, No. 1S. p. 67–76
13. Racu, A., Verza, F.E., Racu, S.: *Pedagogia specială: [pentru uzul studenților] (Special pedagogy: [for student use]*. Chişinău, 2011. 316 p.
14. *Regulament de organizare și funcționare a școlilor sportive. Hotărârea Guvernului Republicii Moldova nr.31/2019 (16. Regulation of organization and operation of sports schools. Decision of the Government of the Republic of Moldova no. 31/2019)*. Monitorul Oficial No. 49-58 art. 93 Accessed: 10.02.2023 [<http://lex.justice.md/viewdoc.php?action=view&view=doc&id=379261&lang=1>]
15. Sabanina, V.N., Buldakova, N.V., Anfilatova, O.V., et al.: *Gymnastic Elements as a Means of Physical Education for Children Aged 7–8 with Autism Spectrum Disorders*. In: Human. Sport. Medicine, 2018, vol. 18, no. 3, p. 144–154, DOI: 10.14529/hsm180314
16. Sansi, A., Nalbant, S., Ozer, D.: *Effects of an Inclusive Physical Activity Program on the Motor Skills, Social Skills and Attitudes of Students with and without Autism Spectrum Disorder*. In: J Autism Dev Disord Vol.51, 2021, p. 2254–2270, DOI: 10.1007/s10803-020-04693-z
17. *Standarde de învățare și dezvoltare pentru copilul de la naștere până la 7 ani : Standarde profesionale naționale pentru cadrele didactice din instituțiile de educație timpurie (2010) (Learning and development standards for children from birth to 7 years: National professional standards for teachers in early childhood education institutions)*, Min. Educației al Rep. Moldova; au colab.: Larisa Vîrtosu, Ala Pînzari, Nadejda Velişco [et al.]; experți naț.: Aglaida Bolboceanu, Cornelia Cincilei; expert internaț.: Mihaela Ionescu. Chişinău : "Imprint Star" SRL. 2010, 170 p.