

STUDY ON USING THE ACROBATIC GYMNASTICS MEANS IN THE INITIAL TECHNICAL TRAINING FOR JUDOKA CHILDREN AGED 8-9 YEARS

Potop Vladimir^{1,3}, Manolachi Veaceslav^{2,3}, Andrey Chernozub⁴,
Manolachi Victor^{2,3}

¹*Department of Physical Education and Sport, University of Pitești, Romania*

²*Dunărea de Jos University of Galati, Romania,*

³*State University of Physical Education and Sports, Chisinau, Moldova*

⁴*Petro Mohyla Black Sea National University, Mykolayiv, Ukraine*

Abstract

The main purpose of the study is to highlight the use of the acrobatic gymnastics means in the initial technical training for judoka children aged 8-9. This scientific approach led to the organization of a study at the "Mircea Eliade" Sports High School Bucharest, judo department. The experimental group included 10 judokas aged from 8 to 9 years. The study was carried out from October 2021 to April 2022. The specific training in judo is achieved by studying the motor actions that compose the judo techniques. Judo training aims at preparing the body for the specific effort of the combat, in order to successfully participate in competitions. It also aims at developing the physical and mental abilities required by the maximal efforts. The results of the research regarding the basic acrobatic training show up the learning of the acrobatic elements in the rolls and turn-overs group and the influence of these elements on the initial technical training of judokas aged 8-9. The efficiency of the technical execution of two different techniques is demonstrated by performing 10 attempts and noting the number of successful attempts and the number of failed ones. Regarding the technical test no.1, one can notice an average of 7.5 successful attempts and a moderate homogeneity, while in the technical test no. 2 there are 7.7 successful attempts and a very poor homogeneity. Ensuring the relationship between the technical and acrobatic training indicators in the 8-9-year-old judoka highlights moderate mutual connections between the evaluated indicators and strong connections between the acrobatic elements at $p < 0.001$. In this sense, one can conclude that the efficient use of the acrobatic gymnastics means during the training sessions for judokas of 8-9 years old influenced the level of the initial technical training.

Key words: *acrobatic training, initial technical training, judo kids, performance*

1. Introduction

Judo is a modern martial art and one of the most popular sports in the world, attractive in almost every country. It is included in Summer Olympics (Wood, 2013). In terms of health promoting, judo has training systems that cover all age groups (Demiral, 2018). It is considered that judo, practiced as an extracurricular activity and not only, develops a series of social and moral values, namely: courage, self-control, calmness, ambition, the desire to win, the ability to solve unpredictable situations (Vulpe & Macovei, 2015).

Taking into account the trends and modern approaches of the long-term

sports training development in judo, it is advisable to consider it as a specific complex system having its own characteristics. The stage of sports and recreation, as well as the initial training stage can become the basis of the effective preparation of the sports reserves in judo (Altynai et al., 2022). Children's activity during training can contribute to the development of major character traits, especially those of will and moral rectitude mainly required by judo specific relationship (Manolachi et al., 2010).

The age at which people start to practice judo and the level of participation are important variables that must be taken into consideration when adapting the didactic content (García García et al., 2009).

Practicing physical activity enhances the psychomotor and social development of children. Previous research studies suggest a positive effect of sports and martial arts (judo included) practicing on the general fitness and on the development of coordination, motor skills and psychosocial skills (Walaszek et al., 2019).

A lot of space is devoted in the specialized literature to the study of the martial arts practicing effects on the functional performance and muscle strength (Puszczalowska-Lizis et al., 2017).

The field of sports competition develops continuously, so that all athletes have almost the same physical abilities but different mental abilities (Azaiez et al., 2013). There are opinions about the real danger of judo throw movements that could cause injuries in children. Theoretically speaking, the falls produced by judo throwing techniques could be potentially dangerous if poorly managed, especially for children (Sacripanti & De Blasis, 2017).

The main purpose of the study is to highlight the use of the acrobatic gymnastics means in the initial technical training of the judoka children aged 8-9.

2. Material and method

This scientific approach entailed the organization of a study in "Mircea Eliade" High School with sports program of Bucharest, judo department. The experimental group was formed of 10 judokas of 8-9 years old, height 135 ± 0.06 cm and body weight 36.80 ± 7.11 kg.

The study was conducted from October 2021 to April 2022, aiming to improve the level of technical training using the means of acrobatic gymnastics.

Fitness tests applied:

Technical test 1 – technical procedures, assessed by performing 10 attempts; the number of successful attempts is noted;

Technical test 2 – technical procedures, assessed by performing 10 attempts; the number of successful and failed attempts is noted.

Acrobatic training:

Acrobatic test 1 – forward tuck roll, assessed by performing 10 attempts; the successful ones are noted;

Acrobatic test 2 – side turn-over (cartwheel), assessed by 10 attempts; the successful ones are counted.

The statistical analysis was carried out by means of KyPlot program, calculating the following descriptive indicators: mean, standard deviation (SD) and the coefficient of variation (CV%). The correlative analysis between the technical training indicators and the acrobatic training ones was made using the Pearson’s linear correlation coefficient.

3. Results and Discussions

The results of the technical training of 8-9-year-old judokas prove the efficiency of the technical execution of two different techniques, by performing 10 attempts, writing down how many executions were successfully done (table 1).

Table 1. *Results of the technical training of 8-9-year-old judokas, n=10*

Judoka	Technical test 1 (successful executions)		Technical test 2 (successful executions)	
	1	Uki-Goshi	10	Ippon Seoi Nage
2	O Goshi	8	O Soto Gari	9
3	O Goshi	9	O Soto Gari	7
4	De Ashi Barai	9	Hiza Guruma	8
5	Uki Goshi	6	Kata Gatame	9
6	O Uchi Gari	8	O Goshi	8
7	O Soto Gari	7	Kesa Gatame	8
8	Morote Seoi Nage	7	Kata Gatame	7
9	O Soto Gari	6	Uki Goshi	6
10	O Goshi	5	Kesa Gatame	6
Mean		7.5		7.7
SD		1.58		1.16
Cv%		21.1		1.34

Regarding the technical test 1, an average of 7.5 successful attempts is highlighted, while the technical test 2 has an average of 7.7 successful attempts.

Table 2. *Results of the acrobatic training of 8-9-year-old judokas, n=10*

Statist. Ind.	Acrobatic test 1 (successful attempts)	Acrobatic test 2 (successful attempts)
Mean	8.7	8.1
SD	1.25	1.66
Cv%	14.3	29.5

Notes: Acrobatic test 1 – forward tuck roll; Acrobatic test 2 – side turn-over (cartwheel)

As for the basic acrobatic training evaluated through acrobatic elements belonging to the group of rolls and turn-overs, an average of 8.7 successful attempts is highlighted in rolls and an average of 8.1 successful attempts in

cartwheels. A moderate and poor homogeneity is found out between attempts.

These results reveal the influence of the acrobatic training on the learning of the basic techniques by the 8-9-year-old judokas (table 2).

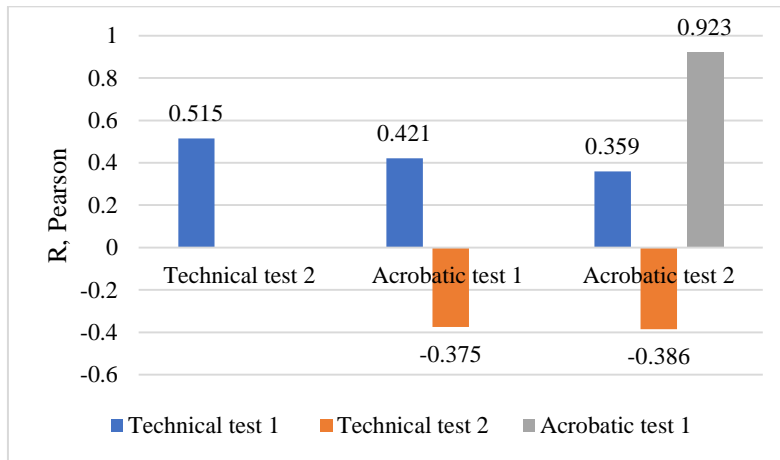


Fig. 1. Relationship between technical and acrobatic training in judokas aged 8-9

Regarding the relationship ensured between the technical training and the acrobatic elements in the judokas aged 8-9 years, moderate mutual connections are found out between the evaluated indicators. Strong connections are highlighted between the acrobatic elements at $p < 0.001$ (fig. 1).

In developing the basic skills, it is very important to give children many opportunities to explore their movement potential through educational games. Judo practicing by children (4 to 6 years old) improves brain function, the motor coordination, emotional intelligence, imagination, self-confidence etc. (Demiral, 2018). Thanks to its content and methods used in an attractive form during the training, judo can help to educate the children or improve their motivation with influences in growth, development and education (Neofit, 2010)

Within a research, the emerging evidence suggests that the regular use of CrossFit-based training program for young judokas significantly increased their fight activity in the competitive matches (Avetisyan et al., 2022).

Most sports psychologists believe that in recent years the coaches and athletes have come to the conclusion that they need psychological skills more than physical skills to achieve their goals. A study was conducted to compare some psychological skills of the elite martial arts athletes (judokas, boxers, wrestlers and karate players) from Tunisia (Azaiez et al., 2013). Specific physical training can improve balance control in young judokas compared to the type of training that does not require balance skills (swimming, for example) (Itamar, Schwartz & Melzer, 2013; Jankowicz-Szymanska, Mikołajczyk, & Wardzala, 2015). The identification of the factors involved in judo learning based on an observational study of the technical errors and their relationships was carried out, using a

combination of a self-generated observation tool (OI-JUDO-TG) and a recording tool (developed with the Lince software) (Prieto-Lage, et al., 2020). The bilateral performance and its associations with competition performance and competition volume in judo were investigated by means of Special Judo Fitness Test (Šimenko, & Hadžić, 2022).

The approach of the pedagogical procedures of teaching, experiencing and learning judo in children reveals technical-tactical, socio-educational and cultural-historical aspects. The possible play is a group of pedagogical procedures focused on managing and ensuring the goals of the process of teaching, experiencing and learning judo in terms of content, methodology and didactics (Cavazani et al., 2016).

The rolling and the agility on the ground help to learn how to protect at falls and direct contact with the ground. Indeed, people who practice combat sports such judo get injured rarely, despite the big number of falls that occur, possibly thanks to their gross motor skills, their technical skills and their expertise in performing the rolling techniques. „Ukemi”, in which a roll on a transverse axis is performed by isolating the cervical area, is one of the fundamental techniques in judo (Invernizzi et al., 2020).

Based on the results of a study, one can conclude that a new methodology should be proposed and applied in order to teach judo to children, to encourage them to practice this sport and to build a stronger relationship between judo and schools (García García et al., 2009).

The review of the current specialized literature on the practical organization and carrying out of the judo training for healthy pre-school and school-aged children focused on the purpose, forms and methods of training the children. The literature also addressed the safety issues and the risk of injury during judo training sessions. The most common injuries include the upper arm injuries and the lower limbs ones (Kowalczyk et al., 2022). One concern is to examine the behavioral changes of the preschool kids who participate in judo classes, such as reported by their parents (Sterkowicz-Przybycień, Kłys & Almansba, 2014).

4. Conclusions

The analysis of the acrobatic training assessed according to the execution of acrobatic elements from the rolls and turn-overs group highlights the influence of the acrobatic preparation on the technical training of judokas aged 8-9.

The relationship between the technical training and the acrobatic elements in the 8-9-year-old judokas is showed by the moderate mutual connections between the evaluated indicators and by the strong connections between the acrobatic elements.

The results of the study highlight the efficient use of the acrobatic gymnastics means in the initial technical training, in terms of learning the basic techniques, the number of successful attempts and also the results obtained in competitions.

Bibliography

1. García García, J., Carratalá, V., Sterkowicz, S., & Escobar Molina, R. (2009). *A study of the difficulties involved in introducing young children to judo techniques: A proposed teaching programme.*
2. Wood, A. (2013). *Judo.* The Rosen Publishing Group, Inc.
3. Vulpe, I. B., & Macovei, S. (2015). *Students' opinions about the socio-moral values developed by the practice of judo.* Ovidius University Annals, Physical Education and Sport/Science, Movement and Health Series, 15(2), 191-196.
4. Jankowicz-Szymanska, A., Mikolajczyk, E., & Wardzala, R. (2015). *Arch of the foot and postural balance in young judokas and peers.* Journal of Pediatric Orthopaedics B, 24(5), 456-460.
5. Itamar, N., Schwartz, D., & Melzer, I. (2013). *Postural control: differences between youth judokas and swimmers.* The Journal of sports medicine and physical fitness, 53(5), 483-489.
6. Avetisyan, A. V., Chatinyan, A. A., Streetman, A. E., & Heinrich, K. M. (2022). *The Effectiveness of a CrossFit Training Program for Improving Physical Fitness of Young Judokas: A Pilot Study.* Journal of Functional Morphology and Kinesiology, 7(4), 83.
7. Altynai, B., Taiyrzhan, I., Talgat, K., Tolgar, A., & Nurlan, Y. (2022). *Organization of the Training Process of Young Judoists.* Cypriot Journal of Educational Sciences, 17(5), 1622-1630.
8. Prieto-Lage, I., Rodríguez-Souto, M., Prieto, M. A., & Gutiérrez-Santiago, A. (2020). *Technical analysis in Tsuri-goshi through three complementary observational analyses.* Physiology & behavior, 216, 112804.
9. Puszczalowska-Lizis, E., Bujas, P., Omorczyk, J., Ambrozy, T., & Markowski, A. (2017). *Feet structure in young capoeira athletes versus untrained peers.* Arch Budo, 13, 93-100.
10. Invernizzi, P. L., Signorini, G., Colella, D., Raiola, G., Bosio, A., & Scurati, R. (2020). *Assessing rolling abilities in primary school children: Physical education specialists vs. generalists.* International Journal of Environmental Research and Public Health, 17(23), 8803.
11. Azaiez, F., Chalghaf, N., Cherif, E., Achour, K., & Souissi, C. (2013). *Evaluation of the Mental Skills of the High Level Athletes: Example of the Athletes of Martial Arts.* IOSR-JHSS, 10(4), 58-65.
12. Šimenko, J., & Hadžić, V. (2022). *Bilateral throw execution in young judokas for a maximum all year round result.* International Journal of Sports Physiology and Performance, 17(5), 720-725.
13. Manolachi, V., Marin, C., Daniel, R., & Mircea, I. E. (2010). *Judo-the alternative method of the contemporary education.* Annals of the University Dunarea de Jos of Galati: Fascicle XV: Physical Education & Sport Management, (2).

14. García García, J., Carratalá, V., Sterkowicz, S., & Escobar Molina, R. (2009). A study of the difficulties involved in introducing young children to judo techniques: A proposed teaching programme.
15. Neofit, A. (2010). *Survey on training in judo for children of preschool age (4-6/7 years)*. Annals of the University Dunarea de Jos of Galati: Fascicle XV: Physical Education & Sport Management, (1).
16. Demiral, S. (2018). LTAD model active beginning stage adaptation in judo basic education program (Ukemi, Tachiwaza & Newaza Basic Drills) for 4-6 aged kids. *Journal of Education and Training Studies*, 6, 1-6.
17. Sacripanti, A., & De Blasis, T. (2017). *Safety on judo children: methodology and results*. arXiv preprint arXiv:1706.05627.
18. Cavazani, R. N., Reverdito, R. S., Drigo, A. J., Scaglia, A. J., Montagner, P. C., & Paes, R. R. (2016). *Sport pedagogy: making the play possible in kids' judo*.
19. Kowalczyk, M., Zgorzalewicz-Stachowiak, M., Błach, W., & Kostrzewa, M. (2022). Principles of Judo Training as an Organized Form of Physical Activity for Children. *International Journal of Environmental Research and Public Health*, 19(4), 1929.
20. Sterkowicz-Przybycień, K., Kłys, A., & Almansba, R. (2014). *Educational judo benefits on the preschool children's behaviour*. *J. Combat Sports Martial Arts*, 5, 23-26.
21. Demiral, S. (2018). LTAD Model Active Beginning Stage Adaptation in Judo Basic Education Program (Ukemi, Tachiwaza & Newaza Basic Drills) for 4-6 Aged Kids. *Journal of Education and Training Studies*, 6, 1-6.
22. Walaszek, R., Chwała, W., Sterkowicz-Przybycień, K., Burdacka, K., Burdacki, M., & Kurowski, P. (2019). *Photogrammetric evaluation of body posture of 6-year-old boys training judo, in three repeated assessments*. *Acta of Bioengineering and Biomechanics*, 21(3), 149-157.