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## STUDY ON THE IMPROVEMENT OF THE INITIAL TRAINING IN MARTIAL ARTS FOR CHILDREN AGED 7-12 YEARS

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### Abstract

**Objective.** This paper is meant to highlight the content-centered didactic strategies aiming at the improvement of the initial training in martial arts (Shotokan style) practiced by children of 7-12 years old. The main objectives in achieving the training strategies were: passing the exam to get 8<sup>th</sup> Kyu degree (yellow belt) in Shotokan style and participation in the SKDUN National Championships of Karate carried out in "Apollo" Sports Centre of Bucharest.

**Methods.** This approach led to an experimental study conducted in the "Seishindokan" Martial Arts Sports Club Association of Alexandria, Teleorman County from 20.05.2017 to 03.03.2018. The subjects of the study were 14 children with age ranging from 7 to 12 years old (2 girls and 12 boys). Methods of research: study of specialized literature, pedagogical observation, method of tests, method of modeling. The exam tests were: 1) Kihon, regarding the offensive techniques using arms with displacement, defensive techniques using arms with displacement and kicking techniques with displacement; 2) Ippon Kumite with partner (for children who have not yet reached the age of 8 years old); 3) Sambon Kumite with partner and 4) Kata test. The training planning was split into two phases: 24 micro-cycles for the belt exam and 2 mezzo-cycles for pre-competitive and competitive training.

**Results.** The results of the study reveal the diversification of the training content by an efficient use of the accessibility principle and algorithmic guidance level of the learning, the practice of the techniques with a partner, study of the competitive fight or "Jyu Kumite", structure of the training sessions, learning for the "Sambon Kumite" competitive event and the 8<sup>th</sup> Kyu degree (yellow belt) exam. A number of 13 children participated in this exam, noted with 5 to 10 points, most of them receiving the maximum score. A team of 10 athletes (2 girls and 8 boys) participated in the SKDUN 2018 National Championships of Karate 2018 in the individual kata event and in the "Ippon Kumite" and "Sanbon Kumite" events as well; 9 of these athletes achieved remarkable results.

**Conclusions.** The diversified use of the training means by an efficient implementation of the accessibility principle and algorithmic guidance of the learning in the martial arts training sessions in children aged 7 to 12 years contributed to the achievement of the optimization strategy objectives of the initial training and to better performances in the belt exam and competitions as well.

**Key Words:** Shotokan, training, planning, strategy, performance.

### Introduction

The *Dojo kun* is actually a condensed version of the Guiding Principles of the Way of Karate (Black Belt, 1981). In terms of philosophy, *Dojo kun* in our practice of *Karate-do* may develop patience, sincerity, honesty, courage, humility, brotherhood/sisterhood, and wisdom (Starks).

Gichin Funakoshi is "the father of modern karate-do". Shotokan Karate is characterized by powerful linear techniques and deep strong stances. Karate-do Nyumon is the result of Master Funakoshi's wish to clarify Karate thought and practice for those who know nothing about it. It is formed of unpublished writings from the years

(Fanakoshi, 2013).

Shotokan karate is often defined by experts as a „scientific style" based on the correct application of body movement laws; the technical specificity of karate mainly consists of using the hips action (www.KarateUS.com; Amalinei, 1998).

In terms of didactics, it is considered that a karate technique has two stages: the first stage deals with the preparation of the technique, while the second stage triggers the technique. Regarding the training and preparation for grading, there are numerous *kata* (patterns of movement) such as: Taikyoku, Heian, Tekki, Bassai, Kanku, Empi, Jion, Jitte etc. imported from Okinawa and changed by the master Funakoshi,

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both as for the techniques proper and for the initial names with Chinese resonance and Japanized afterwards. We can speak of the *Kumite* forms starting from the *Gohon-Kumite* to *Jiyu-Kumite* and of the full explanations on *Katas Heian 1-5*, *Tekki 1* and *Bassai-Dai*. (Wikipedia; Shotokan karate, 1976).

The karate has an assessment and granting system of the *KYU* and *DAN* ranks and the associated esoteric titles. These ranks are the assessment of the real values of practitioners' progress and not a bureaucratic or power instrument. The *GI* (technique), *TAI* (body) and *SH IN* (spirit) are examination criteria in the traditional schools; the exigency changes depending on athlete's rank and age. By the achievement of *GI*, *TAI*, *SHIN*, the practitioner self-improves technically and mentally through a severe fight against oneself (Amalinei, 1998).

Each style /school of karate or martial arts has different colors and some schools have differently colored braids/stripes. For example, in *Shodokan karate* (educational) we have: blue and violet belt, with 1 braid / strip: white and respectively black, in brown belt with 1 / 2/ 3 braids / white and respectively black (Starks; Amalinei, 1998).

The planning of the training in martial arts, in Shotokan style especially, by applying the didactic technologies depending on the training level and the education and performance objectives, can be achieved during long-term macro-cycle, medium term macro-cycle, short term macro-cycle and immediate term – training session.

This paper is meant to highlight the content-centered didactic strategies aiming at the improvement of the initial training in martial arts (Shotokan style) practiced by children of 7-12 years old.

The main objectives in achieving the training strategies were: passing the exam to get the 8<sup>th</sup> Kyu degree (yellow belt) in Shotokan style and participation in the SKDUN National Championships of Karate carried out in Apollo Sports Centre of Bucharest.

## Methods

This scientific approach entailed the organization of an experimental study carried out within the Association of "Seishindokan" Martial Arts Sports Club of Alexandria, Teleorman County from 20.05.2017 to 03.03.2018.

A number of 14 children aged 7 to 12 years (2 girls and 12 boys) participated in this study.

Methods of research used: study of the specialized literature, pedagogic observation, method of tests, method of modeling.

The tests for the exam were the following ones: 1) *Kihon*, regarding the techniques of offensive arms with displacement, techniques of defensive arms with displacement and techniques of kicks with displacement; 2) *Ippon Kumite* with partner (for kids under 8 years old); 3) *Sambon Kumite* with partner and 4) *Kata* test.

The training planning was split into two stages: 24 micro-cycles for the belt examination and 2 pre-competitive and competitive mezzo-cycles for competition preparation.

*Content and sequence of the means applied during the training program for belt exam:*

- the warm-up of the upper limbs was executed from "*Heiko Dachi*" stance;
- warm-up of the lower limbs, focusing on mobility exercises;
- study of the action zones of the body: lower one "*Gedan*", middle "*Chudan*" and upper one "*Jodan*";
- study of the offensive punches "*Choku Zuki*" and "*Gedan Barai*" defensive technique.

a) first month:

- the first week focused on the improvement of these two techniques and the learning of "*Age Uke*" and "*Soto Uke*" techniques; learning of "*Mae geri*" and "*Uchi Ude Uke*".

- the goal of the second week was to improve the assimilated techniques and to learn the "*Zenkutsu Dachi*" stance, movement into "*Zenkutsu Dachi*" stance, execution and improvement of this one together with the first techniques learnt "*Oi Zuki*", "*Gyaku Zuki*", "*Gedan Barai*", "*Age Uke*", "*Soto Ude Uke*", "*Uchi Ude Uke*" and "*Mae Geri*".

- the third week focused on the learning of "*Shuto Uke*", "*Mawashi Geri*" and "*Yoko Geri*" techniques.

- during the fourth week, the technique "*Ura Mawashi Geri*" and "*Kokutsu Dachi*" were learnt during the execution from displacement of "*Shuto Uke*" technique.

- b) the first half of the second month focused on the improvement of the techniques learnt and the start of practicing the techniques with partner; a new stance was learnt ("*Kiba Dachi*"); the competitive combat or "*Jyu Kumite*" was studied during the last week of the month, starting with standing footwork, then forward and backward displacement, then work with partner, arms attack techniques and combinations of two or three techniques performed from displacement.

c) the study of "Jyu Kumite" (competitive combat) was continued in the third month, with the study by defensive exercises namely backward retreats, side flipping away and feints performed by footwork rhythm breaking accompanied by attacks with arms or feet and also counter-attacks with arms executed in the same time with the attack of the opponent; the second week of the month was intended for "Kata" learning (fight with imaginary opponents, competitive event) starting with the study of "Taikyoku Shodan", a kata formed of the first two techniques "Gedan Barai" and "Oi Zuki".

d) the fourth month focused on the study of "Heian Shodan" Kata, based on "Oi Zuki", "Gedan Barai", "Tettsui", "Age Uke" and "Shuto uke" techniques. In the second week of the month, the training sessions had an equal structure, namely in one training session only "Kihon" basic techniques were practiced individually or with partner while in the next training session only "Kata" was practiced, along with the improvement of kata elements. Another training session was based on "Kumite" techniques executed individually or with partner, strategies, flipping away and Kumite matches in the end of the training session; "Sanbon Kumite" was learnt in the fourth week of the month, followed by the exam for the 8<sup>th</sup> Kyu degree awarding (yellow belt).

e) the work was as intense as possible all over the fifth month given the fact that the degree exam had to be taken this month.

*The content of the training plan for competition:*

- execution of easy movements of the basic techniques of "Ippon Kumite" and "Sanbon Kumite"; the second part of the training is the practice of "Kata" passages.

- increase of the number of training sessions from 3 to 5 a week.

*Content of the training micro-cycle for competition:*

- Monday, correction of the basic techniques, displacements and their execution from low speed up to high speed; improvement of "kime" (retention of techniques and stances);

- Tuesday, training with partner for improving the coordination of the correct execution of the techniques with partner from a low speed up to very high speed; separate and connected attacks from "Sanbon Kumite", at the end of the training session, the athletes participate in competitive matches;

- Wednesday: "Kata" at the beginning - fragments of the two kata "Heian Shodan" and "Taikyoku Shodan" in order to correct the form, speed and rhythm, then full execution from low speed up to very high speed; at the end - testing;

- Thursday: training session based on the standing and lying physical exercises for mobility executed both individually and with partner, as well as normal running, high knee running, sprint, high knee jumps, push-ups, crunches and reflex sports games;

- Friday: assessment. A pyramidal system was organized as follows: "Kata" competition (combat with imaginary opponent), then "Ippon Kumite" competition (for children who reached the age of 8 years) "Sanbon Kumite" (coordination exercise with partner) then "Jyu Kumite" (combat with partner).

*Remark:* This type of training micro-cycle belonging to the macro-cycle no. 1 was made from January until the competition day.

## Results

Table no. 1 shows the results of the test events required by the training for the Kihon belt examination (yellow belt, 8 Kyu), regarding the testing of the offensive arms techniques, the defensive arms techniques and the kicks technique.

**Table 1.** Results of the test events for preparation of the belt exam – Kihon (mean; ±SD)

Statistical indicators	Offensive arms techniques (points)		Defensive arms techniques (points)					Kicks techniques (points)			
	Oi Zuki	Gyaku Zuki	Gedan Barai	Age Uke	Soto Ude Uke	Uchi Ude Uke	Shuto Uke	Mae Geri	Mawa-shi Geri	Yoko Geri Kekomi	Yoko Geri Keage
Mean	7.31	7.39	7.38	7.39	7.35	7.36	7.32	7.35	7.35	7.40	7.36
SEM	0.04	0.01	0.02	0.01	0.02	0.02	0.01	0.03	0.03	0.00	0.16
SD	0.13	0.03	0.06	0.03	0.07	0.07	0.04	0.08	0.08	0.00	0.05
Coef. Var.(%)	1.76	0.43	0.86	0.43	0.96	0.95	0.58	0.12	1.16	0.00	0.70

Note: SEM – standard error of mean, standard deviation, Coef. Var – coefficient of variation.

The analysis of the statistical calculations of the test events regarding the preparation for the belt examination – *Kihon* (mean;  $\pm$ SD) highlights the following matters: in offensive arms techniques with displacement from *Zenkutsu Dachi* assessed with *Oi Zuki* with a mean of 7.31;  $\pm$ 0.13 points and *Gyaku Zuki* with a mean of 7.39;  $\pm$ 0.03 points; techniques of defensive arms with displacement from *Zenkutsu Dachi* and *Kokutsu Dachi*, testing of the movements: *Gedan Barai* with a mean of 7.38;  $\pm$ 0.06 points, *Age*

*Uke* – 7.39;  $\pm$ 0.03 points, *Soto Ude Uke* – 7.35;  $\pm$ 0.07 points and *Shuto Uke* – 7.32;  $\pm$ 0.04 points; the kicks technique with displacement from *Zenkutsu Dachi* and *Kiba Dachi*, testing of the movements: *Mae Geri* with a mean of 7.35;  $\pm$ 0.08 points, *Mawashi Geri* – 7.35;  $\pm$ 0.08 points, *Yoko Geri Kekomi* – 7.40;  $\pm$ 0.00 points and *Yoko Geri Keage* – 7.36;  $\pm$ 0.05 points.

In table no. 2 are listed the results of the test events for the preparation of the belt exam – *Ippon* and *Sanbon Kumite* with partner and *Kata*.

**Table 2.** Results of the test events for preparation of the belt exam - *Ippon* and *Sanbon Kumite* with partner and *Kata*

Statistical indicators	<i>Ippon</i>	<i>Sanbon</i>	<i>Kata</i> test
	<i>Kumite</i> with partner	<i>Kumite</i> with partner	event
Mean	7.37	7.36	7.35
SEM	0.01	0.02	0.02
SD	0.05	0.06	0.07
Coef. Var.	0.65	0.70	0.96

The analysis of the statistical calculations of the test events regarding the preparation for the belt examination (mean;  $\pm$ SD) reveals a mean of 7.37;  $\pm$ 0.05 points in *Ippon Kumite* with partner; in *Sanbon Kumite* with partner – a mean of 7.36;  $\pm$ 0.06 points and in *Kata* Test – 7.35;  $\pm$ 0.07 points.

In table no. 3 are shown the performances achieved by the athletes-practitioners of Karate

Shotokan aged 7 to 12 years during the National Championships of Karate SKDUN 03.03.2018, in “Apollo” Sports Centre of Bucharest, taking into account the age, the weight consistent with the category of weight, individual *Kata* per categories and age, *Ippon Kumite* and *Sanbon Kumite*.

**Table 3.** Results of the performances achieved in the National Championships of Karate SKDUN 03.03.2018, “Apollo” Sports Centre of Bucharest

No.	NP	Age, years	Weight./Wt category (kg)		Individual <i>Kata</i> , (8 kyu)		Ippon <i>Kumite</i> , (8 kyu)		Sanbon <i>Kumite</i>	
			Wt., kg	WtC, Wt.	Ctg., years	Perf.	Perf.	kyu	Perf.	
1	AS	7	19	+25	C1, 5-7	1	1	8	2	
2	SCM	7	36	+25	C1, 5-7	3	2	8	2	
3	BEG	8	43	+40	C2, 8-9	1	3	8	1	
4	AMA	8	29	-33	C2, 8-9	3	2	8	1	
5	BAC	9	39	-40	C2, 8-9	3	1	8	1	
6	MSD	10	32	-33	C3, 10-11	3	3	9-7	2	
7	CAM	10	52	+40	C3, 10-11	3	2	9-7	1	
8	NMV	11	60	+53	C3, 11	3	1	9-7	3	
9	MBB	11	27	-29	C3, 10-11	1	1	9-7	1	
10	G-GM	12	48	-53	C3, 12-13	2	1	9-7	3	
<b>Mean</b>		9.3	38.9							
<b>SEM</b>		0.56	3.95							
<b>SD</b>		1.77	12.50							
<b>Coef. Var.</b>		18.99	32.47							

The analysis of the performance results highlight a mean of the competitors' age of 9 years and 3 months, 38.9 kg of body weight in conformity with the weight categories (+25 kg, -29 kg, - 33 kg,  $\pm$  40 kg,  $\pm$  53 kg); a number of 2 children, age 5-7 years, participated in the individual *Kata* - children 1 (C1) category and they were ranked on 1<sup>st</sup> and 3<sup>rd</sup> place; a number of 3 children, age 7-9 years, participated in C2 category, ranking on 1<sup>st</sup> and 3<sup>rd</sup> place; in C3 participated 5 children aged from 10 to 13 years, obtaining the places 1 - 3; a number of 10 children participated in *Ippon Kumite* event with partner, 8 kyu: 5 of them obtained the 1<sup>st</sup> place, 3 were ranked on the 2<sup>nd</sup> place and 2 of them were ranked on the 3<sup>rd</sup> place; in the *Sanbon Kumite* event, 5 children of 7-9 years old were examined for 8 kyu and 5 children of 10-13 years old were examined for 9-7 kyu.

### Discussion

Pedagogic observations over competition functioning of elite martial arts sportsmen demonstrated that the most effective and frequent TTA are: straight punches in head, side kicks in torso, throws by gripping opponent with legs, holdings and painful techniques. In our opinion, the application of these techniques is conditioned by the Rules of hand combat competitions (Radchenko, 2015); The prospects of further researches in this direction imply further working out of the theoretical-methodological foundation of pedagogy and psychology of Ukrainian martial art "spas"; increasing of attention to professional training, flexible renewal of content of physical culture education in compliance with educational-qualification levels on the base of continuity; marketing researches on the national demands of qualified specialists in national martial arts (Prytula, 2015).

The study and comparative analysis of the psycho-physiological features of elite martial arts athletes help to predict their success and to improve their training (Iermakov, Podrigalo, Romanenko, et al, 2016); we determined distinctions of psycho-physiological reactions of different skilled martial arts athletes. We also confirmed a better functional state of experienced athletes. More direct contacts, the results of simple visual motor reaction mean better fitness and higher workability (Podrigalo, Iermakov, Potop, et al, 2017). The theoretical and experimental study of the special psychological aspects of behavioral self-regulation of adolescents in the process of martial arts mastering and the development of psychological follow-up were taken into consideration during the training exercises

(Nakonechnyi, Galan, 2017). The functional state of martial arts athletes was analyzed through a series of psycho-physiological methods (Volodchenko, Podrigalo, Aghyppo, et al., 2017). The effects of regular Taekwondo (TKD) training on physical fitness, mood, sociability and cognitive functions in the children were also investigated (Roh, Cho, So, 2018). The anthropometric and physiological profiles of the elite Iranian Karatekas can be used in identifying the talent and are important for the optimal structure of the training programs (Nikookheslat, Faraji, Fatollahi, Alizadeh, 2016). Other studies analyze the specific training for *Shotokan* based on the competition combat and also the *Shotokan* women's competition (Marques Junior, N., 2014).

The specialized literature includes a lot of books and manuals about the complete training in *Shodokan Karate* (Roth, 1992; Rielly, 2000; Enoeda, 2003; Kanazawa, 2006, 2013; Thompson, 2008; Martin, 2008, 2016; Yokota, 2010; Fanakoshi, 2013; Joachim Grupp, 2003, 2009, 2018, Meyer & Meyer Sport publishing house; [www.jka.or.jp/wp/wp-content/](http://www.jka.or.jp/wp/wp-content/)).

The results of the study reveal the diversification of the training content by an efficient use of the accessibility principle and algorithmic guidance level of the learning, the practice of the techniques with a partner, study of the competitive fight or "*Jyu Kumite*", structure of the training sessions, learning for the "*Sambon Kumite*" competitive event and the 8<sup>th</sup> Kyu degree (yellow belt) exam. A number of 13 children participated in this exam, noted with 5 to 10 points, most of them receiving the maximum score. In the group no. 1, at the 8 kyu exam it was not necessary to monitor the strength and the speed of the technique but only the accuracy of the technique and a correct completion (FRK, WUKF).

A team of 10 athletes (2 girls and 8 boys) participated in the SKDUN 2018 National Championships of Karate 2018 in the individual *kata* event and in the "*Ippon Kumite*" and "*Sanbon Kumite*" events as well; 9 of these athletes achieved remarkable results.

### Conclusions

The progressive distribution of the content and the sequence of the means used in the karate training program of the children for belt examination contributed to the achievement of the intended training and performance objectives.

The diversified use of the training means by an efficient implementation of the accessibility principle and algorithmic guidance level of the learning in the training sessions of martial arts in children aged 7

to 12 years contributed to the achievement of the optimization strategy objectives of the initial training and to better performances in the belt exam and competitions as well.

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### References

- Amalinei, N., 1998, Practical Course of Karate Do, "A 92" Publishing House, Iasi, <http://www.shogun.ro/>
- Black Belt, 1981, Biomechanics for the Martial Arts, Chokes and Sleepers, Aikido's o-sensei, The secret of momochi, Publisher James, M., World's leading magazine of self-defense, Modern arms - simply effective, Ijoon Rhee Sports, inc., 19(9).
- Enoeda, S.K., 2003, Shotokan Karate 5 – Black, A&C Black, 160 p.
- Fanakoshi, G., 2013, Karate-Do Nyumon: The Master Introductory Text, Kodansha International.
- Iermakov, S., Podrigalo, L., Romanenko, V., Tropin, Y., Boychenko, N., Rovnaya, O., Kamaev, O., 2016, Psycho-physiological features of sportsmen in impact and throwing martial arts, Journal of Physical Education and Sport; 16(2):433 – 441, doi:10.7752/jpes.2016.02067
- Kanazawa, H., 2006, Black Belt Karate: The intensive Course, Kodansha International, 232 p.
- Kanazawa, H., 2013, Black Belt Karate: The intensive Course, Kodansha USA, 232 p.
- Martin, A., 2008, The Advanced Shotokan Karate Bible: Black Belt and Beyond, A. & C. Black, 198 p.
- Martin, A.P., 2016, The Shotokan Karate Bible, 2<sup>nd</sup> edition: beginner to belt, Bloomsbury Publishing, 224 p.
- Marques Junior, N., 2014, Fight zone with points of the Shotokan karate female competition. Rev Bras Prescr Físio Exerc 8(44):137-48.
- Nakonechnyi, I., Galan, Y., 2017, Development of behavioral self-regulation of adolescents in the process of mastering martial arts, Journal of Physical Education and Sport, 17(suppl., 3): 1002 – 1008, doi:10.7752/jpes.2017.s3154
- Nikookheslat, S.D., Faraji, H., Fatollahi, S., Alizadeh, M., 2016, Physical and Physiological Profile of Elite Iranian Karate Athletes, International Journal of Applied Exercise Physiology, 5(4): 35-44, [www.ijaep.com](http://www.ijaep.com)
- Podrigalo, L., Iermakov, S., Potop, V., Romanenko, V., Boychenko, N., Rovnaya, O., Tropin, Y., 2017, Special aspects of psycho-physiological reactions of different skillfulness athletes, practicing martial arts, Journal of Physical Education and Sport; 17(suppl, 2): 519 – 526, doi:10.7752/jpes.2017.s2078
- Examination Curriculum for SHOTOKAN Ryu, Romanian Karate Federation WUKF, <http://www.wukf.ro/federatie/programa-de-examinare/>
- Prytula, A.L., 2015, Professional training of physical culture teachers for use in national martial arts career, Pedagogics, psychology, medical-biological problems of physical training and sports;1:62-67, doi: 10.15561/18189172.2015.0112
- Radchenko, Y.A., 2015, Specific features of competition functioning of martial arts elite sportsmen. Pedagogics, psychology, medical-biological problems of physical training and sports;12:91–95. <http://dx.doi.org/10.15561/18189172.2015.1214>
- Rielly, R. L., 2000, Secretes of Shotokan Karate, Tuttle Publishing, Boston, 256 p.
- Roth, J., 1992, Black Belt Karate, Charles E. Tuttle, 379 p.
- Roh, H.T., Cho, S.Y., So, W.Y., 2018, Taekwondo Training Improves Mood and Sociability in Children from Multicultural Families in South Korea: A Randomized Controlled Pilot Study, Int. J. Environ. Res. Public Health, 15, 757; doi:10.3390/ijerph15040757
- Shotokan Karate: Kihon – Kumite-Kata, 1976, Joachim Grupp.
- Shotokan Karate Kata, 2003, Meyer & Meyer Sport, Joachim Grupp, Vol 2, 152 p.
- Shotokan Karate: Kihon – Kumite – Kata, 2009, Meyer & Meyer Sport, Joachim Grupp, 160 p.
- Shotokan Karate: Technik – Training – Prüfung, 2018, Meyer & Meyer, Joachim Grupp, 126 p.
- Starks, R.I., All - city karate studio Shotokan karate-do, Student training manual, <http://www.masites.com>
- Technical manual for the instructor, 2017, The japan karate association technical division,4; [https://www.jka.or.jp/wp/wp-content/uploads/2017/04/tech\\_manual\\_instructor.pdf](https://www.jka.or.jp/wp/wp-content/uploads/2017/04/tech_manual_instructor.pdf)



- Thompson, C., 2008, Black Belt Karate, North Atlantic Books, 160 p.
- Volodchenko, O., Podrigalo, L., Aghyppo, O., Romanenko, V., Rovnaya, O., 2017, Comparative analysis of a functional state of martial arts athletes, Journal of Physical Education and Sport, 17(Suppl.,4):2142-2147, doi:10.7752/jpes.2017.s4220
- Wikipedia, Shotokan,  
<https://ro.wikipedia.org/wiki/Shotokan>
- Yokota, K., 2010, Shotokan Myths, Xlibris Corporation, 258 p.