ORIGINAL ARTICLE

Perception of health by combat sports athletes

Authors' Contribution:
A Study Design
B Data Collection
C Statistical Analysis
D Manuscript Preparation
E Funds Collection

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Received: 04 July 2019; **Accepted:** 12 August 2019; **Published online:** 31 August 2019

AoBID: 12993

Abstract

Background and Study Aim: In social opinion, martial arts with their centuries-old traditions are considered carriers of numerous desirable values, and in Eastern societies, they have been functioning for many years as effective educational systems for children and youth. The aim of the study is knowledge about perception of health by practitioners of different martial arts, considering their gender, competitive experience, and degree of competence.

Materials and Methods: The study was carried out in a group of 101 judo practitioners and 122 karate practitioners. A standardized research tool – an anonymous questionnaire – was used to evaluate the perception of health.

Results: Competitors representing different martial arts perceive health in different ways: in biomedical terms by judo competitors, and in holistic terms by karate competitors. For the latter health is associated with physical fitness (21.3%), good results of laboratory tests (15.6%), and inner peace (12.3%). On the other hand, the highest percentage of judo practitioners (24.8%) indicated good results of laboratory tests, followed by physical fitness (19.8%) and proper body weight (11.5%) as the dominant associations with health.

Conclusion: Trainers are able to influence combat sports, and martial arts athletes through their educational activities as well as affect the holistic perception of and care for health, which in turn can translate into better sports results. Moving away from traditional values of combat sports and martial arts towards athleticization results in an unfavourable, biomedical, perception of health by competitors.

Keywords: control emotions • judo • karate • moral education • prevent aggression • self-esteem

Conflict of interest: Authors have declared that no competing interest exists

Ethical approval: The research was approved by the local Ethics Committee

Provenance & peer review: Not commissioned; externally peer-reviewed

Source of support: Departmental sources

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INTRODUCTION

In social opinion, martial arts with their centuries-old traditions are considered carriers of numerous desirable values, and in Eastern societies, they have been functioning for many years as effective educational systems for children and youth [1]. Apart from health values, martial arts serve moral education, reduce brutality and provide positive patterns of behaviour, being at the same time a source of self-esteem [2, 3]. Among the benefits of practising martial arts, Herrigel [4] mentions the ability to prevent aggression and control emotions, and the ability to calmly react in case of danger. Ashford [5] indicates four main reasons for practising martial arts: good physical health, mental well-being, fitness, and independence. Practising certain sports, especially combat sports and martial arts may facilitate the formation of pro-social attitudes and positive health behaviours [1, 6, 7]. According to the European Physical Education Association, this specific form of physical activity brings many educational benefits, which is why combat sports are often practised in the school environment [8]. High educational values, as well as the lifelong possibility of practising martial arts, invite detailed questions about the real pro-health potential of these sports. Particularly important seems to be the issue of developing a health-caring personality, which is manifested by undertaking independent behaviours in order to maintain and improve well-being in all its dimensions.

Health is a universal value not only in European culture, and the way it is understood affects everyday decisions and individual behaviours. Over the years, numerous attempts at health conceptualization have led researchers to a complex interpretation of health as a broad multidimensional construct, i.e. as biological, mental, social, and spiritual well-being. Today, scientists are increasingly inclined to see human health not as a state but as a process. Particular merits in this field can be attributed to Aaron Antonovski, the creator of the salutogenic model of health, who believes that the normal state of the organism is heterostasis and not homeostasis. The constant search for balance while functioning in a permanent disturbance of order is, according to him, an immanent feature of life. Everyone has a certain level of health, that is, a certain place in a continuum between two extremes: complete health and life-threatening disease. During one's life, thanks to individual everyday choices among pro- and anti-health behaviours, a person moves in one direction or another [9].

Each definition of health derives from a specific anthropological model. The most popular and at the same time, polarized approaches to health are biomedical and holistic. The biomedical concept of health is a pathogenic orientation explaining health as the absence of disease. In this way of thinking, human health depends on the development of medical technologies. The biomedical model is related to a conviction that the advancements in restorative medicine completely determine the state of human health. The holistic concept of health regards health as affected by a multitude of factors, including environmental ones. The main focus is on health as the development of one's potential, not the mere escape from or fighting disease. In the holistic model, people determine the state of their health with specific health behaviours they can modify. Responsibility for the state of health, in its biological as well as psychosocial dimensions, is transferred from the healthcare system to the individual. A person is treated subjectively and can, and should, consciously participate in the process of treatment as well as in disease preventive and health-promoting activities [10-12].

Although the models mentioned above have their advantages and disadvantages, from the point of view of public health the holistic perception of the human being together with the environment in which they live seems to be more reasonable [13].

In reality, health is most often understood in a very diverse way. Woynarowska [14] claims that every person can understand health in their own way, depending on factors such as age, gender, education, or personal experience with diseases. The way athletes understand health is interesting. As we know health is not a direct goal of the sporting activity, but in competitive sport offers an unquestionable value, because it is a necessary condition for enduring high training loads as well as for achieving maximum psychophysical and transgressive capabilities in sports competition. Many studies regarding socio-psychological or pedagogical aspects of athletes' health have been primarily focused on the evaluation of health behaviours of combat sports and martial arts practitioners. Therefore, it seems to be important to broaden and deepen the knowledge of the above issues. The literature on the subject shows that the way of perceiving and understanding health may influence the behaviour related to health protection and promotion [15], which naturally determines the sport's

Health – physical and psychosocial well-being, not just the absence of illness or disability.

Biomedical concept of health – pathogenic approach explaining health as the absence of disease. The state of human health depends on the development of medical technologies.

Holistic concept of health – a multitude of social and environmental factors shapes human health. People are responsible for the state of their health.

Tactics – *plural noun* the art of finding and implementing means to achieve immediate or short-term aims [39].

Technique – *noun* a way of performing an action [39].

Dan (dan'i) – a term used to denote one's technical level or grade. In *jūdō*, the "*dan*" ranks start at shodan (1- *dan*) and go up to the highest grade of *jūdan* (10- *dan*) [40].

Kyū – the series of grades that precede *dan* ranks. *Ikkyū* is the grade immediately below *shodan* [40].

Kyū (**kyu**) – is a Japanese term used in modern martial arts (in judo from **6** to **1 kyu**; which is the highest) as well as in tea ceremony, flower arranging.

Combat sports – the group of sports disciplines, in which the gist of the competition is the direct clash of two competing athletes. They are affiliated to the national and international sports organizations in order to carry out the official competition, classification, etc. [41].

development of athletes. It should also be noted that any study on the way of thinking about health and identification with a specific concept of health poses methodological difficulties, especially when trying to adopt a quantitative research strategy since the full knowledge of the issues mentioned above is only achievable with the use of qualitative research methodology [16].

The aim of the study is knowledge about perception of health by practitioners of different martial arts, considering their gender, competitive experience, and degree of competence.

MATERIAL AND METHODS

One hundred and one judo athletes and 122 karate competitors took part in the study. Purposive sampling was applied, and only those athletes who systematically trained and took part in national- and international-level competitions were qualified for the study. Most of the karate competitors (58.2%; 80 Kyokushin practitioners, 42 Shotokan practitioners) were dan-ranked from 1 to 7. Among the judo competitors, 76.2% were advanced athletes with 1st and 2nd kyu, and 23.8% were dan-ranked from 1 to 3. The average age of respondents in the judo group was 20.8 years and in the karate group 32.9 years. The respondents trained judo five times a week, while the karate athletes trained from 3 to 4 times a week on the average.

For the purpose of the study, a standardized anonymous questionnaire survey was used. In order to determine the concept of health with which the athletes identify, a question from the survey questionnaire "Pro-health determinants of my family's lifestyle" by Krawański [17] was used.

The respondents were to select from a 14-point list maximum of three states (situations) associated with good health, and put them in order of importance, from 1st to 3rd place. The items on the list were: 1physical fitness, 2 good results of laboratory tests, 3 inner peace, 4 good appetite, 5 normal blood pressure, 6 lack of physical ailments, 7 healthy heart, 8 happy family life, 9 good health, 10 healthy spine, 11 good mood, 12 not feeling tired, l3 proper body mass, and 14 proper cholesterol level. For further analysis, only the states (situations) listed first in the hierarchy established by the respondents were selected. Out of the fourteen states (situations), seven can be interpreted as positive measures of health, and the other seven as biomedical measures (Table 1).

Table 1. Situations (states) associated with good health most preferred by respondents.

Situations (states) associated with good health	Judo athletes		Situations (states) associated with good health	Karate athletes	
	n	%		n	%
Good results of lab tests**	25	24.8	Physical fitness*	26	21.3
Physical fitness*	20	19.8	Good results of lab tests**	19	15.6
Proper body mass**	12	11.5	Inner peace*	15	12.3
Healthy heart**	10	9.9	Good sleep*	14	11.5
Healthy spine**	7	6.9	Healthy heart**	13	10.7
Lack of physical ailments**	6	5.9	Proper body mass**	9	7.4
Good sleep*	6	5.9	Lack of physical ailments**	8	6.6
Good appetite*	5	5.0	Happy family life*	7	5.7
Proper cholesterol level**	3	3.0	Good mood*	4	3.3
Normal blood pressure**	2	2.0	Good appetite*	3	2.5
Not feeling tired*	2	2.0	Not feeling tired*	2	1.6
Good mood*	2	2.0	Normal blood pressure**	2	1.6
Inner peace*	1	1.0	Healthy spine**	0	0.0
Happy family life*	0	0.0	Proper cholesterol level**	0	0.0
total	**101**	**100**	**total**	**122**	**100**

*states associated with the holistic concept of health
**states associated with the biomedical concept of health

RESULTS

Competitors representing different combat sports have different perceptions of health. For karate athletes, good health is associated with physical fitness (21.3%), good laboratory tests (15.6%) and inner peace (12.3%). On the other hand, the highest percentage of judo practitioners (24.8%) indicated good results of laboratory tests as the dominant association with health. Also, a large number of athletes (19.8%) indicated physical fitness as the most adequate association with good health, while the inner peace of mind of only one judo athlete was associated with health. Many judo athletes (11.9%) identify good health with proper body weight. Considering all these indications in the context of separating the two concepts of health, it can be seen that the majority of karate athletes (58.2%) understand health in a holistic way, while the majority of judo athletes (64.4%) perceive it in a way consistent with the biomedical model of health and disease (Table 1).

The former is close to the holistic concept of health in which individual lifestyles play a key role in strengthening health; the latter is associated with the biomedical approach to health in which the health system plays a key role.

Male athletes (especially judo competitors) are more in favour of a biotechnological approach to well-being than female athletes. As many as 72.7% and 60.3% of male and female judo athletes, respectively, prefer the above health model. In the group of karate practitioners, gender differences turned out to be insignificant: 42.0% of men and 41.2% of women determine their health through medicine, while most of them perceive their health in compliance with the holistic, socio-ecological paradigm. The examined male athletes perceive health from the perspective of physical fitness to a greater extent than female athletes. Identifying the level of physical fitness with the level of health is more noticeable in the group of karate practitioners.

The length of training experience differentiates athletes in terms of their understanding of health. Judo practitioners with training experience under 10 years, mostly interpret their health in biomedical terms (71.1%), while this percentage is lower in the group of judo competitors with longer training

Table 2. Perception of health by judo athletes with respect to gender, length of training experience, and degree of competence.

Situations (states) associated with good health	Gender				Training experience				Degree of competence			
	women		men		up to 10 years		11 years and more		kyu-level		dan-level	
	n	%	n	%	n	%	n	%	n	%	n	%
Good results of lab tests**	18	26.5	7	21.2	16	27.1	9	21.4	20	26.0	5	20.8
Physical fitness*	13	19.1	7	21.2	10	16.9	10	23.8	14	18.2	6	25.0
Proper body mass**	8	11.8	4	12.1	9	15.3	3	7.1	11	14.3	1	4.2
Healthy heart**	5	7.4	5	15.2	6	10.2	4	9.5	7	9.1	3	12.5
Healthy spine**	4	5.9	3	9.1	4	6.8	3	7.1	5	6.5	2	8.3
Lack of physical ailments**	3	4.4	3	9.1	5	8.5	1	2.4	5	6.5	1	4.2
Good sleep*	5	7.4	1	3.0	2	3.4	4	9.5	5	6.5	1	4.2
Good appetite*	5	7.4	0	0.0	2	3.4	3	7.1	2	2.6	3	12.5
Proper cholesterol level**	2	2.9	1	3.0	1	1.7	2	4.8	1	1.3	2	8.3
Normal blood pressure**	1	1.5	1	3.0	1	1.7	1	2.4	2	2.6	0	0.0
Not feeling tired*	2	2.9	0	0.0	1	1.7	1	2.4	2	2.6	0	0.0
Good mood*	2	2.9	0	0.0	1	1.7	1	2.4	2	2.6	0	0.0
Inner peace*	0	0.0	1	3.0	1	1.7	0	0.0	1	1.3	0	0.0
Happy family life*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Total	68	100	33	100	59	100	42	100	77	100	24	100
Biomedical perception of health	60.3%		72.7%		71.2%		54.8%		66.2%		58.3%	
Holistic perception of health	39.7%		27.7%		28.8%		45.2%		33.8%		41.7%	

* states associated with the holistic concept of health
** states associated with the biomedical concept of health

experience (54.8%). The number of karate practitioners who perceive health in a biomedical way (up to 10 years of training experience 48.6%; over 10 years of training experience 38.4%) decreases with the length of training experience in favour of the holistic concept (Table 2).

The level of sport advancement (degree of competence), similarly to the length of the competitive training experience, also differentiates the compared groups of athletes. The majority of kyu-level practitioners (66%) are in favour of the biomedical concept of health, while the more advanced dan-level practitioners also favour the biomedical concept; however, this percentage is slightly lower (58%). A slight majority of kyu-level practitioners (53%) perceive health as holistic, while those with dan ranks are even more in favour of the holistic concept (62%) (Table 3).

DISCUSSION

Health is often seen as a prerequisite for success in sport. It is a tool and a capability for reaching championship in sports competition because only a healthy athlete is capable of maximum effort and commitment. Therefore, taking care of one's health is a highly significant component of professional and amateur athletes' lifestyle. There are observable of the fundamental objectives – and their competitive versions which by definition are not focused on health but on reaching maximum psychophysical capabilities in order to achieve sports success [18]. Research on combat sports and martial arts have focused primarily on the problems of technical, tactical, and physiological preparation; bodyweight reduction; and different psychological aspects [19-24]. Lifestyle issues are also discussed. Kotarska et al. [25] state that the intensity of health behaviours is closely related to the frequency of training, and that people who train daily displayed the highest level of health behaviours. Nowak et al. [26] analysing the determinants of health behaviours in judo athletes found that their level decreased with age, level of sport advancement, and length of training experience. Boguszewski et al. [27] obtained different results among judo practitioners, claiming that the level of health behaviours increases with age and with the sports advancement level.

Table 3. Perception of health by karate athletes with respect to gender, length of training experience and the degree of competence.

Situations (states) associated with good health	Gender				Training experience				Degree of competence			
	women		men		up to 10 years		11 years and more		kyu-level		dan-level	
	n	%	n	%	n	%	n	%	n	%	n	%
Physical fitness*	6	17.6	20	22.7	6	17.1	20	23.3	9	17.6	17	23.9
Good results of lab tests**	5	14.7	14	15.9	8	22.9	11	12.8	8	15.7	11	15.5
Inner peace*	4	11.8	11	12.5	3	8.6	12	14.0	5	9.8	10	14.1
Good sleep*	5	14.7	9	10.2	4	11.4	10	11.6	5	9.8	9	12.7
Healthy heart**	5	14.7	8	9.1	3	8.6	9	10.5	7	13.7	6	8.5
Proper body mass**	2	5.9	7	8.0	3	8.6	6	7.0	5	9.8	4	5.6
Lack of physical ailments**	2	5.9	6	6.8	2	5.7	6	7.0	3	5.9	5	7.0
Happy family life*	3	8.8	4	4.5	3	8.6	4	4.7	5	9.8	2	2.8
Good mood*	1	2.9	3	3.4	0	0.0	4	4.7	0	0.0	4	5.6
Good appetite*	0	0.0	3	3.4	0	0.0	3	3.5	1	2.0	2	2.8
Not feeling tired*	1	2.9	1	1.1	2	5.7	0	0.0	2	3.9	0	0.0
Normal blood pressure**	0	0.0	2	2.3	1	2.9	1	1.2	1	2.0	1	1.4
Healthy spine**	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Proper cholesterol level**	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Total	34	100	88	100	35	100	86	100	51	100	71	100
Biomedical perception of health	41.2%		42.0%		48.6%		38.4%		47.1%		38.0%	
Holistic perception of health	58.8%		58.0%		51.4%		61.6%		52.9%		62.0%	

Researchers of combat sports and martial arts, however, must take into account their great diversity. Bu et al. [28] suggest that in the analysis of practitioners' health behaviours, a distinction should be made between contact and no-contact combat styles since these varieties fundamentally differentiate the perception and thus the approach of athletes to health. The results of the present study indicate a discrepancy in the perception of health between judo and karate competitors. The former perceive health in terms of biotechnology, i.e. through the prism of continuous medical care. Systematic control of physiological indicators, body mass, good laboratory results, and effective pharmacological support are indicators of good health in judo athletes. This may result, to a large extent, from the typical sports approach of these athletes to training. It should be noted that judo was created based on the martial art of ju-jitsu, and the goal of the judo founder was to create a completely developmental, utilitarian system of exercises, used in the physical education of children and youth, in police and army training, and as an Olympic sports competition, also in its recreational dimension [29, 30]. Judo is a dynamic, intense sport that requires complex skills and tactical perfection in order to succeed. It may be treated either as a sport or martial art, depending on the training assumptions and the trainer's preferences of specific goals [31]. However, the development of judo and its Olympic character bring it closer to the sport than to martial arts, which is likely to be due to a shift from traditional martial arts and spiritual development to typical sports training.

Karate athletes perceive health holistically, i.e. they tend to see the sources of good health in themselves, believe that their health depends on their physical fitness and inner peace, and is an outcome of the whole functioning of the individual. Their perception of health is not limited to one, i.e. biological, dimension, but also involves the mental, social and spiritual dimensions. According to Harasymovich [32], karate is a martial art that ensures physical development and additionally influences the maintenance and improvement of health. Practising karate also affects the ethical and moral development of trainers. The assumptions of karate can be a source of inspiration for changes in the way competitors think. Generally, the philosophy of martial arts focuses on internal development, so practitioners strive for continuous and comprehensive self-improvement. Budnik-Przybylska [33] examining the motivation of karate athletes for training observed the dominance of internal motivation in them that emphasized personal development.

The present study results remain in line with the motto: "The ultimate aim of karate lies not in victory nor defeat, but the perfection of the character of its participants". Zienowicz et al. [34] describe karate as art that aims at any constructive activity for the holistic development of all competitors. The data from previous studies, which emphasize the discrepancies in the assumptions of judo and karate, appear to confirm the differences in the obtained research results. The way of perceiving health is the result of many years of influence of trainers who carry out the mission of a given discipline. Judo is dominated by the sporting element, leading to medicalization prompting athletes to adopt a technological approach to training, their own body, and perception of health. Sporting competition is reduced mainly to the rivalry of two competitors, whereas the centuries-old philosophical foundation in karate makes its transformation into a typical sport much more gradual. "Fighting with oneself" (and "judo in mind") as a form of lifelong improvement is of great importance [35-37]. According to Bu et al. [28], each martial arts style has its own training traditions, philosophies, and a sense of spirituality.

CONCLUSIONS

The perception of health among practitioners of combat sports and martial arts depends on their varieties, which is due to cultural differences, philosophies, and traditions of particular combat styles.

Trainers have the opportunity to affect combat sports and martial arts practitioners by exerting a pedagogical influence on the holistic way of perceiving and caring for the health, which can, in turn, translate into better sports results.

Moving away from the traditional values of combat sports and martial arts towards their athleticization results in an unfavourable from the point of view of public health, biomedical perception of health by competitors.

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Cite this article as: Görner K et al. Perception of health by combat sports athletes. Arch Budo 2019; 15: 213-219