

The impact of practice of selected combat sports on signs of aggression in players in comparison with their non-training peers

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Key words: martial arts, combat sports, level of aggression, anger, hostility

Summary

Background. In the contemporary society there is the prevailing opinion that the practice of combat sports and martial arts increases aggression. Persons practicing them are often perceived as aggressive and dangerous. As results of research published in specialistic literature often present opposite attitudes, the aim of this study was to determine the level of aggression of males practicing combat sports in comparison with their non-training peers.

Material and methods. The study was conducted on a group of 160 persons and covered athletes practicing Brazilian jiu-jitsu, boxing and shotokan karate; the control group consisted of randomly selected non-training peers of the athletes. The aggression questionnaire designed by A.H. Buss and M. Perry (the Buss-Perry Questionnaire) was used.

Results. The obtained results of the study show existing discrepancies in the levels of aggression in athletes covered by the study. The differentiating factor is the kind of sport/martial art being practiced. Among three groups of athletes covered by the analysis, the highest level of aggression was observed in Brazilian jiu-jitsu fighters and then in the group of boxers. The lowest level of aggression characterised shotokan karate fighters.

Conclusions. On the basis of results of the study, we can state that the practice of combat sports has a favourable impact on fighters; even though jiu-jitsu fighters achieved the highest level of physical and verbal aggressions in groups under research, the general level of their aggression was lower than in the case of non-training persons.

Background

Young people still look for opportunities to satisfy their natural desires for rivalry, personal development and choice of their own sport career. Combat sports and martial arts contain many values that are of importance for the contemporary human being, which is why they are highly popular among school-age children and youth. However, practicing these specific forms of motor activity arouses many controversies as to its results. Because of high interest in such forms of motor exercises, they become increasingly often the object of research in the context of their social impact and aggression in young people [1]. Martial arts with a centuries-long tradition are regarded in social opinions as a carrier of many desired values and function as an education system for children and young people in Eastern societies [2]. Apart from health benefits, they have supported moral education, have decreased social brutality and have provided positive models of behaviour, being a source of self-satisfaction at the same time [3-9]. Herrigel [10] states that fighting systems were created not only for military purposes, but their primary aim was spiritual development. Describing the benefits of these types of exer-

cises, the author points out numerous effects of training that help to acquire the skills of preventing aggression and controlling one's own emotions in an emergency. Because of their numerous advantages, martial arts have also been introduced to physical education curricula in schools. In the opinion of researchers of the European Physical Education Association (EUPEA), this specific form of motor activity offers many benefits [11]. The specific nature of the adolescence period and numerous educational difficulties occurring at that time induce teachers, educators and social workers to look for effective methods of working with difficult and depraved youths. As a means to reduce aggression, hand-to-hand fighting exercises turned out to be an effective method of social rehabilitation [12-15]. Combat sports and martial arts have many supporters, but there is also a large number of negative opinions on them. Research being conducted in Norway proves that the practice of combat sports and martial arts leads to an increase of anti-social behaviours [16]. It is believed that the practice of boxing among school-age youths should be prohibited for medical, philosophical and ethical reasons [17]. Researchers dealing with that subject think that the negative image of analysed sports is disseminated by the media, which

brutalise combat sports and martial arts for commercial purposes by separating them from their traditional philosophical, religious and ethical dimension. Strength and violence are still promoted in mass culture, and aggressive behaviours are often rewarded by recipients and become frequently negative models of behaviour for children and young peoples [18,19, 5]. Chunlei Lu [5] states that the brutalisation of martial arts results largely from ignorance and failure to understand their most important rules. Popularisation activities related to show business, which results in martial arts being associated mainly with brutality, are considered to be extremely harmful by this author.

In consideration of various opinions on the impact of combat sports on school-age youth and the diversity of social reception, a study was carried out in order to determine the level of aggression in males practicing combat sports in comparison to their non-training peers.

The following research questions were asked in the work:

1. What level of aggression is shown by athletes practicing combat sports under research and their non-training peers?
2. Will there be differences in the levels of aggression depending on the sport being practiced?
3. Which sign of aggression will reach the highest level?

Material and methods

The study covered a group of 160 persons, which included 40 athletes from Forca Brava – a Brazilian ju-jitsu club from Opole, 40 athletes from the Shotokan Karate Club from Nysa and 40 athletes from the boxing section of the AZS Nysa club. The age of athletes covered by the study ranged from 17 to 25 years, and their training experience ranged from 2 to 6 years. The control group consisted of randomly selected students of the secondary school of general education in Nysa and students of the Faculty of Physical Education and Physiotherapy of the Opole University of Technology. The study was carried out by means of a diagnostic survey tech-

nique, and the research tool was the Buss-Perry aggression questionnaire [20]. It consisted of 29 questions aimed at measuring aggressive tendencies, such as physical aggression, verbal aggression, anger and hostility. The task of each respondent filling in the questionnaire was to rate all questions by answering them on a scale of 1 to 5 (1 – “does not match me at all”, 5 – “matches me completely”). The sum of individual factors influences the total score of the level of aggression in a given person and is presented in a score scale.

Results

The analysis of the research material was started by determining the level of physical aggression in respondents. Physical aggression, a forceful action or procedure (as an unprovoked attack) that is hostile, destructive, or violent, and has the potential to inflict injury or damage to the target person or object, especially when intended to dominate or master. On the basis of the obtained results, we can say that the highest level of physical aggression in groups under research was reached by Brazilian ju-jitsu fighters (26.1), whereas the second highest score was obtained by non-training persons (25.9). Boxers ranked third with a score of 22.6. The lowest level of physical aggression was observed in the group of *shotokan* karate fighters (21.7). Considering

the range of the physical aggression scale (0-45), we must notice that the obtained result is far from the maximum value level (Fig. 1).

Another element of the research was the determination of the levels of verbal aggression in groups under research. Verbal aggression is message behavior which attacks a person's self-concept in order to deliver psychological pain. According to the Buss-Perry scale, values of this factor are contained in an interval of up to 25 points. The obtained results indicate that the highest level of this kind of aggression was also observed in the group of Brazilian ju-jitsu fighters (16.5), whereas the second highest score belonged to non-training

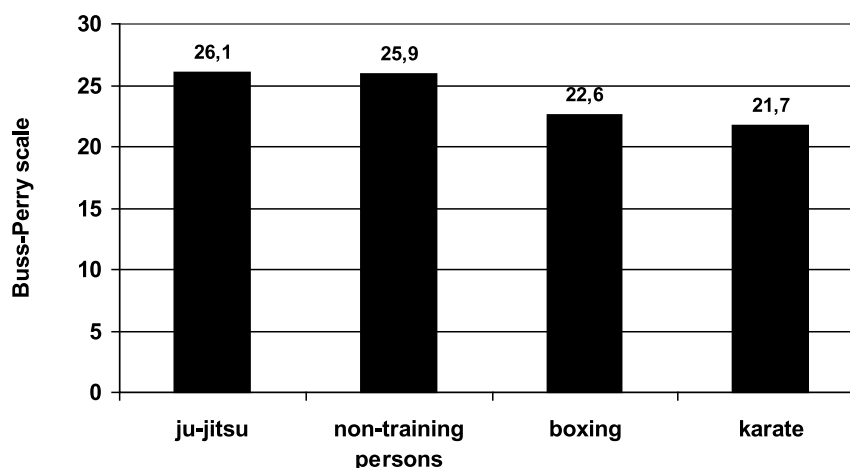


Fig. 1. The level of physical aggression in persons under research

persons in the control group (15.9). The third position was occupied by boxers with a score of 15.6. The lowest level of aggression was shown by karate fighters – 14.2 (Fig. 2).

Anger is an emotional state characterized by antagonism toward someone or something you feel has deliberately done you wrong that varies in intensity from mild irritation to intense fury and rage. The analysis of results referring to the intensity of anger showed its highest level in non-training persons (20.6). In the group of athletes, the highest value was observed in ju-jitsu fighters (19.5); the second highest score was obtained by boxers (17.8) and karate fighters reached once again the lowest level of signs of aggressive behaviours (15.1) (Fig. 3.). It must be mentioned that these results are far from the maximum level of anger, which is contained in an interval of up to 35 units of the Buss-Perry scale.

Hostility is a strong impulse inspired by feelings of anger or resentment that cause intentional harm of injury to another person or object. The analysis of hostility shows similar val-

ues of this characteristic in groups of non-training persons and boxers. In both of these groups, the value of this indicator is the highest (23.6 and 23.0 points with the maximum value of the scale = 40). Considerably lower levels of hostility were observed in the remaining two groups (20.9 and 20.1 points) – Fig. 4.

Individual kinds of aggression (physical aggression, verbal aggression, hostility and anger) were summed up to obtain the general level of aggression characterising groups under research. According to the adopted scale, its maximum level amounts to 145 units. The highest value of overall aggression occurred in non-training persons, whereas the second highest score belonged to ju-jitsu fighters; it must be noted, however, that the difference in these two groups is slight and amounts to 3 units of the Buss-Perry scale. A lower level of overall aggression is shown by boxers and karate fighters – Fig. 5.

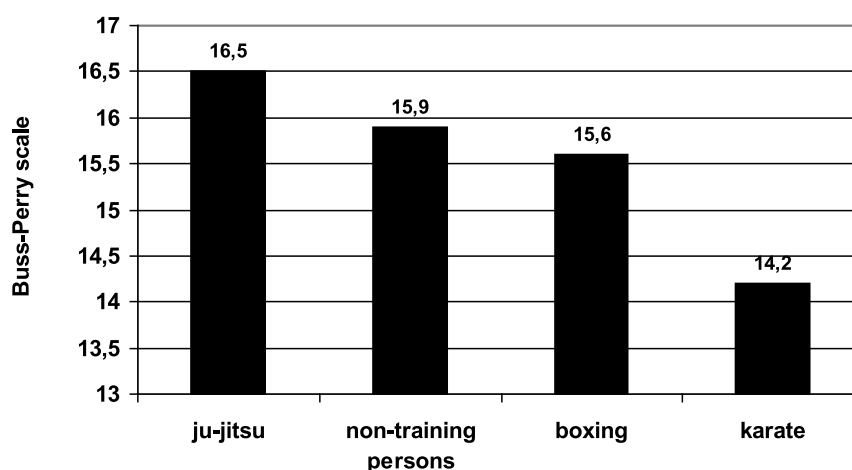


Fig. 2. The level of verbal aggression in persons under research

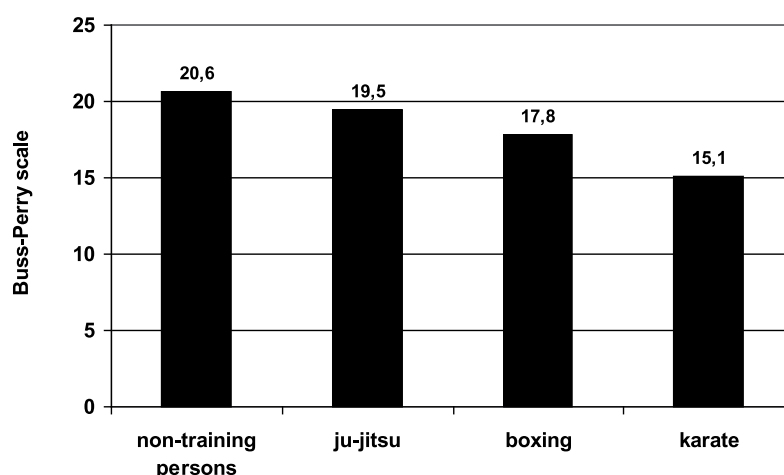


Fig. 3. The level of anger in persons under research

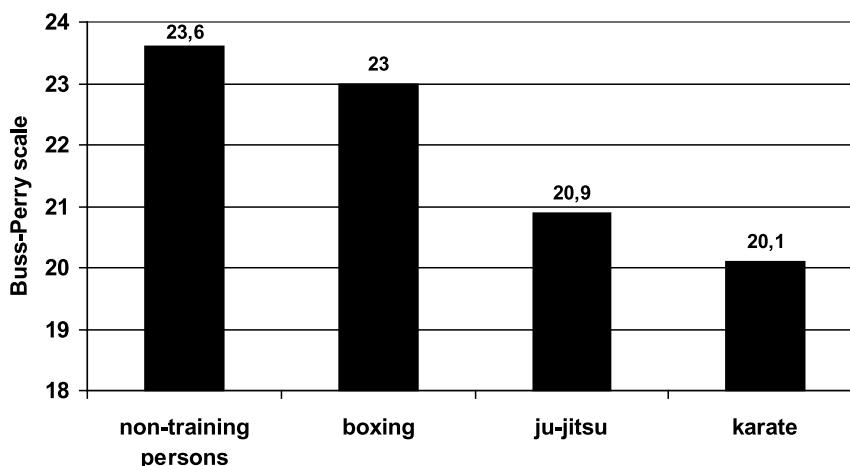


Fig. 4. The level of hostility in persons under research

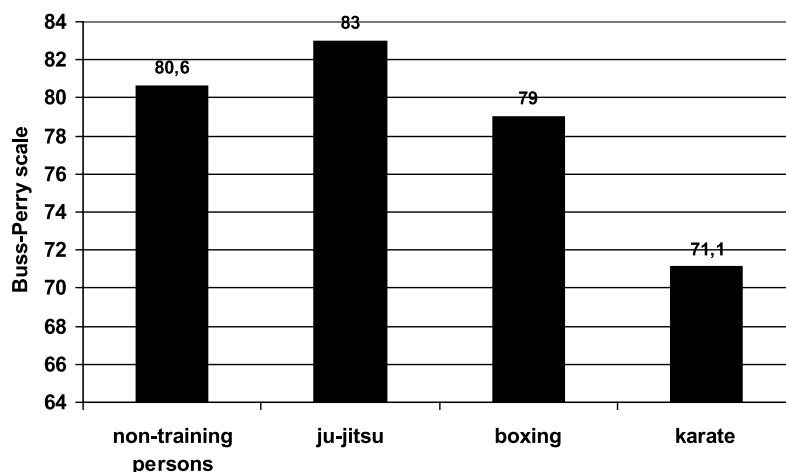


Fig. 5. The level of aggression in persons under research

The overall level of aggression in persons under research is presented on the above chart. The minimum value on the scale in the analysis of the overall level of aggression in the Buss-Perry Questionnaire is 29, whereas the maximum value is 145. The highest level of aggression in the study carried out in this work was demonstrated by peers who did not practice any combat sports or martial arts (86). The second highest score belongs to Brazilian ju-jitsu fighters (83). Boxers, whose level of aggression amounted to 79, ranked third. The lowest level of aggression in this research is demonstrated by karate fighters (71.1).

Discussion

In the modern society there is the prevailing opinion that the practice of combat sports and martial arts increases aggression. Persons practicing them are often perceived as aggressive and dangerous. As a result of intensive practice, ath-

letes are distinguished by their robust posture, which arouses negative feelings and fears of aggressive behaviours in people. Results of research published in specialistic literature often present opposite attitudes. Lamarre and Nosachuk [3] state that judo training reduces the level of aggression or did not cause any changes in other studies. Other researchers – Reynes and Lorant [21,22] – analysed the impact of judo training on the level of aggression in primary school pupils using the Buss-Perry Questionnaire. This study showed an increased level of aggression in judo fighters, but differences were not statistically important in comparison with the control group. When conducting a longitudinal study in a group of karate fighters, these authors did not find any changes in the level of aggression as a result of training. However, they emphasised the important role of *kata* and meditation exercises, which had a favourable impact on self-control. Research carried out by Supiński [23] proves that the level of aggression in young people practicing kick-boxing decreased after six

months of training. Sterkowicz and Madejski [24] also ascertained the favourable impact of *hapkido* training in a group of training children. Favourable training effects indicated by the authors included the strengthening of family ties, a stronger sense of obligation and independence and an increase of kindness and courage. Cynarski's study [25] showed that the highest level of self-control is demonstrated by persons practicing non-competition or non-contact forms of hand-to-hand fighting, whereas the lowest level of self-control is observed in persons practicing more aggressive contact sports.

The obtained results of the study show existing discrepancies in the levels of aggression in athletes covered by the study. The differentiating factor is the kind of sport/martial art being practiced. Among three groups of athletes covered by the analysis, the highest level of aggression was observed in Brazilian ju-jitsu fighters. In typical combat sports, training is aimed mainly at the development of motor and technical skills, whereas personality training and emotion control are often neglected. Athletes who fight in full contact with the opponent experience pain and risk their health or even their lives. These experiences may have a significant impact on their mental sphere [18]. One of the characteristics of martial arts such as aikido or various karate styles is the formation and development of fighters' system of values in accordance with the ideology that contributed to the establishment of a given style (in many cases it was a religion). This is why in the presented study the lowest level of aggression was observed in the group of *shotokan* karate fighters. When analysing the factors that influence the results, we must also pay attention to the issue of auto-selection at the time of choosing a sport; persons looking for a path of spiritual development will probably never join a boxing, kick-boxing or MMA club, because they will have no opportunity to accomplish their

goals. Thus, the results may have partly been determined by the homogeneity of groups with regard to training motivation. When considering the diversity of combat styles and consequences of training, we must look at non-training peers, whose everyday life is devoid of sacrifice and sports duties. In this group, the highest level of general aggression was observed.

Conclusions

The presentation of obtained results will provide both readers and persons interested in hand-to-hand fighting with characteristics of three analysed forms of fighting. Apart from purely cognitive benefits, they will also offer the possibility of conscious choice of a sport or martial art by young people and children or – more frequently – by their parents, who make decisions on behalf of them. On the basis of results of the study, we can state that the practice of combat sports has a favourable impact on fighters; even though ju-jitsu fighters achieved the highest level of physical and verbal aggression in groups under research, the general level of their aggression was lower than in the case of non-training persons. During the period of recruitment in clubs, many children and school-age youths do not obtain their parents' consent in spite of their own engagement and will to start training. The reason of such refusal is most often parents' fear of the increase of aggression in their children as a result of training. This confirms the strongly established social stereotype that perceives combat sports and martial arts as a way of developing aggression. The complexity of the subject requires further studies describing the effects of so specific forms of motor activity that could influence the continuation and development of centuries-long traditions of hand-to-hand fighting.

References

1. Vertonghen J, Theeboom M. The social – psychological outcomes of martial arts practise among youth. A review. *Journal of Sport Science and Medicine*, 2010; 9, 528-537.
2. Cynarski W. J. Travel for the study of martial arts. *Idō – Movement for Culture*, *Journal of Martial Arts Anthropology*, 2012; 12, 143-151.
3. Lamarre B. W, Nosanchuk T. A. Judo – the gentle way. A replication of studies on martial arts and aggression. *Perceptual and Motor Skills*, 1999; 88, 992-996.
4. Skelton D. L, Glynn M. A, Berta S. M. Aggressive behavior as a function of taekwondo ranking. *Perceptual and Motor Skills*, 1991; 72, 179-182.
5. Chunlei Lu. Eastern martial arts and violence prevention. Reversing a stereotype. *Archives of Budo*, 2008; 4, 32-36.
6. Twemlow S, Biggs B, Nelson T, Vernberg E, Fonagy P. Effects of participation in martial arts – based antibullying program in elementary schools. *Psychology in the Schools*, 2008; 45 (10), 947–959.
7. Kuśnierz C. Values associated with practicing modern karate as a form of cultivating old Japanese Bushido patterns. *Ido Movement For Culture*. *Journal of Martial Arts Anthropology*, 2011; 11 (4), 1-5.
8. Theeboom M, Dong Zhu, Vertonghen Jikkemien. Traditional Asian martial arts and youth. Experiences of young Chinese wushu athletes. *Archives of Budo*, 2012; 8, 1, 27-35.
9. Jagiełło W, Dornowski M. Martial arts in the opinions of students at the faculty of physical education. *Archives of Budo*, 2011; 7, 2, 55-59.
10. Herrigel E. *Zen: In the art of archery* (R.F.G. Hull, trans.). New York, Vintage Books, 1989.
11. Theeboom M, DeKnop P, Wylleman P. Martial arts socially vulnerable youth. An analyse of Flemish initiatives. *Sport Educations and Society*, 2008; 13 (3), 301-318.
12. Abrahams C. Inspire guidance – based martial arts program. A self – esteem intervention for at – risk elementary and middle school students. *Compelling Counseling Interventions: Vistas*. 2008, vistas04/20.pdf, Retrieved January 23.
13. Bosch A. *Handboek Fundamentals. Creeren van een social – pedagogisch vechtsportklimaat [Handbook Fundamentals. Create a social – pedagogical martial arts climate]*. Arnhem, 2008; KNKF, Tijd voor Vechtsport.
14. Zivin G, Hassan N, Depaula G, Monti D, Harlan C, Hossain K. et. al. An effective approach to violence prevention. *Traditional martial arts in middle school*, 2001; *Adolescence* 36, 443-459.

15. Wolters J. M. Budo Pedagogy. Ido – Movement for Culture, 2005; vol. 5, 193-205.
16. Endersen I. M., Olweus D. Participation in power sports and antisocial involvement in preadolescent and adolescent boys. *Journal of Child Psychology and Psychiatry*, 2005; 46 (5), 468–478.
17. Peam J: Boxing, youth and children. *Journal of Pediatrics and Child Health*, 1998; 34, 311–313.
18. Cynarski W. J, Litwiniuk A. The violence in boxing, *Archives of Budo*, 2006; 2, 1-10.
19. Mroczkowska H, Kownacka I, Obmiński Z. Study of the indicators of social aggressiveness in competitors practicing combat sports. *Pol. J. Sport Tourism* 2008; 15, 158–165
20. Buss A.H., Perry M. The Aggression Questionnaire. *Journal of Personality and Social Psychology*, 1992, 63, 452-459.
21. Reynes E, Lorant J. Effect of traditional judo training on aggressiveness among young boys. *Percept Mot Skills*, 2002; Feb, 94 (1), 21-5.
22. Reynes E, Lorant J. Competitive martial arts and aggressiveness: a 2 - yr. longitudinal study among young boys. *Percept Mot Skills* 2004; Feb, 98 (1), 103–15.
23. Supiński J. Agresja a kultura fizyczna [Aggression and physical education], *Studia i Monografie*, 2005, AWF, Wrocław.
24. Sterkowicz S., Madejski E. ABC Hapkido [The fundamentals of Hapkido]. KASPER, 1999, Kraków.
25. Cynarski W.J. Recepcja i internalizacja etosu dalekowschodnich sztuk walki przez osoby ćwiczące [The reception and internalisation of the ethos of Far-Eastern martial arts by training persons], University of Rzeszów, Rzeszów 2006

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