

PSYCHOLOGY

Pawel A. Piepiora – PhD in physical education sciences, academic teacher in the Department of Individual Sports (Sports Education Division), Faculty of Sports Sciences at Wrocław Academy of Physical Education; championship class karate coach; athletics instructor; holder of 6 dan in *shotokan karate/WKF*; international *shotokan karate* referee; a national karate WKF referee; multiple medallist at the World and Polish shotokan karate Championships; instructor to medallists at the shotokan karate World Cup and the Polish shotokan karate/WKF/WCK Cup; “Sportsman of the Year 2007” and “Coach of the Year 2010” in the district of Jelenia Góra; member of international organizations: the World Karate Confederation, the Funakoshi Shotokan Karate Association and national organizations: the Polish Karate Association, the Polish Karate Federation.

Andrzej Szmajke – Professor (*Prof. Dr hab.*) of Humanities in the field of psychology; academic teacher and researcher in the Department of Psychology (Humanities and Health Promotion Division), Faculty of Physical Education at Wrocław Academy of Physical Education; he is engaged in research on interpersonal perception, self-presentation, interpersonal attractiveness, egotism, the psychology of political behaviour and sports psychology; author of three books.

Juliusz Migasiewicz – Professor (*Prof. Dr hab.*) in physical culture sciences; *Honoris Causa* Doctor of the University of Lvov; Rector of the Academy of Physical Education in Wrocław; Head of the Sports Education Division and the Department of Sport Training Theory; championship standard athletics coach; in 2001 he was appointed Vice-Rector for Teaching, Student Affairs and Sports; he was elected to office for two consecutive terms; from 2002 to 2008 he was Vice-Chancellor for Student Affairs and Academic Sport; from 2008 to 2012 and then to 2016 he was appointed Rector of the Academy of Physical Education in Wrocław. Between 1977 and 2002 he worked as a coach at the *KS AZS AWF* (Academic Sports Club) Wrocław, and between 1982 and 1990 he was a coach to the *PZLA* (Polish Athletic Association) juniors and seniors national throwing competition teams; he was Vice-President of the *KS AZS AWF* Wrocław and a member of the Board of the Academic Sports Association (AZS); he is the author of more than 160 scientific publications and author or co-author, or editor of 20 books on the theory of sports training, anthropometrics and physical activity of people with disabilities. He is a supervisor to six completed and three initiated PhD academic procedures; supervisor of more than 170 theses and dissertations. For his professional and social activities he has been awarded the following medals: Silver Cross of Merit; Medal of the National Education Commission; Gold Badge of Merit for Physical Culture; Gold Medal of Merit for the Olympic Movement.

Kazimierz Witkowski – PhD (*Dr hab.*) in physical education sciences; Deputy Dean for Student Affairs and Sport in the Faculty of Sports Sciences at Wrocław Academy of Physical Education; Head of the Department of Combat Sports in the Sports Education Division; championship standard judo coach; first class *ju-jitsu* coach; holder of 6 dan in *judo*; Vice President and judo coach at the university sports club *AZS AWF Wrocław*; coach and coordinator of the Olympic team at the Sydney Olympics in 2000; he is the author or co-author of eight books and more than two hundred scientific and scientific-methodological publications.

PAWEŁ A. PIEPIORA^{1(ABCDEF)}, ANDRZEJ SZMAJKE^{2(ACDE)}, JULIUSZ MIGASIEWICZ^{3(CDFG)},
KAZIMIERZ WITKOWSKI^{4(CDFG)}

¹ Department of Sports Education (Individual Sports Division), Faculty of Sports Sciences at Wrocław Academy of Physical Education, Wrocław (Poland)

² Department of Psychology (Humanities and Health Promotion Division), Faculty of Physical Education at Wrocław Academy of Physical Education, Wrocław (Poland)

³ Department of Sport Training Theory (Sports Education Division), Faculty of Sports Sciences at Wrocław Academy of Physical Education, Wrocław (Poland)

⁴ Department of Combat Sports (Sports Education Division), Faculty of Sports Sciences at Wrocław Academy of Physical Education, Wrocław (Poland)

Contact e-mail: pawel.piepiora@awf.wroc.pl

The karate culture and aggressiveness in kumite competitors

Submission: 3.10.2015; acceptance: 15.11.2015.

Key words: aggressiveness, aggression, *karate*, *kumite*, culture

Abstract

Aim and Objectives: The aim is to test three hypotheses. The first one reads: practising different styles of karate, with different rules of kumite, differentiates competing athletes in terms of aggressiveness. The second hypothesis postulates that: the culture of karate or other sport has an impact on the level of aggressiveness of kumite practitioners. The last hypothesis is that: the more brutal a combat system, the greater is the aggressiveness of the kumite system competitors.

Material and Methods: The study used the Aggression Questionnaire (BD-100) and the *Social Approval Questionnaire* (SAQ). For analysis of the research were used variance analysis, one group T significance test and post-hoc tests. Four styles of karate representing different systems of kumite sports competition were specifically selected for the study including: shotokan (semi-contact), kyokushin (knock-down), Oyama (full contact), shidokan (mixed fighting). In addition, the results obtained were compared with the results of orienteers representing a non-contact sport) and with the average results of physical education students at Wrocław Academy of Physical Education. Results: Karate practitioners fighting in the semi-contact (shotokan karate) system have a substantially lower overall level of aggressiveness, both physical and verbal, and suspiciousness than other competitors in kumite systems. *Karatekas* competing in mixed fighting (*shidokan karate*) are characterized by significantly higher levels of physical aggressiveness and irritability than *karatekas* fighting in less violent forms of kumite. Karate practitioners representing knockdown (*kyokushin karate*) tend to have a significantly higher overall level of aggressiveness, both physical and verbal, and suspiciousness than representatives of the semi-contact (*shotokan karate*) system. The results for mixed fighting (*shidokan karate*) practitioners show they are significantly less physically aggressive and irritable than full contact (*Oyama karate*) fighters and relatively more negative and resentful than those competing in knockdown (*kyokushin karate*). All the results of the *karatekas*, the orienteers and the students on the BD-100 scale measured in tetrons are average indicators of aggressiveness.

Conclusions:

1. Practising different styles of karate, with different rules of kumite, does not differentiate competing athletes in terms of aggressiveness.
2. It is sport itself has an impact on *karatekas* (kumite competitors) aggressiveness levels.
3. Regardless of the brutality of sportsmanship systems kumite level of aggressiveness all karate is inadequate.

1. Introduction

Aggression is intentional behaviour. It is based on "starting a destructive fight, or in a verbal dispute, ranging from substantive arguments to ones causing an opponent distress" [Kalina 1991: 13]. In contrast, aggressiveness when viewed as a character trait may be defined as the "individual's readiness to respond to a situation with aggression" [Jarvis 1999: 47]. Aggressiveness in a competitor has an influence on sportsmanship, because aggression is inherent in sport. Aggressiveness is allowed within the limits set by the rules of the discipline. Apart from statutory provisions, each sport has its own informal ethos which includes the standards of aggression which are acceptable during competition. The role of the referee is to decide what aggressive behaviour is acceptable and what is not. Furthermore, while talking about aggression in sport we can also consider the aggressive tactics practised during a competitor's preparation period and their learning so called "sports anger". The existing research shows that recreational sport has a positive somatic and psychological influence [Berger, Owen 1988; Brown, Siegel 1988; Marsh, Peart 1988; Brown 1991; Kalina 1991; Jarvis 1999]. In contrast, competitive sport, contact sports in particular, increases athletes' readiness for aggressive behaviour [Cratty 1973; Tandy, Laflin 1973; Hynan, Esselman 1981; Bredemeier, Shields 1984, 1986; Dunn, Dunn 1999; Tenenbaum et al. 2000; Stones, Roland 2004]. In addition, it has been proved that the training experience has a positive impact on reducing the degree of aggressiveness [Szmajke, Gorajczyk 2003] and athletes, regardless of the sports discipline, demonstrate similar and average indicators of aggressiveness [Piepiora 2007]. Sporting success also reduces competitors' level of aggressiveness; the higher the score, the

lower the aggressiveness level [Witkowski, Hajdrych, Jaskolski 1995]. Research on aggressiveness in combat sports [Nosanchuk 1981; Trulson 1983; Nosanchuk, McNeil 1989; Daniels, Thornton 1990; Skeleton, Glynn, Berta 1991] demonstrates that training focused on sport competition has a greater impact on the aggressiveness of practitioners than "traditional" training, focused on self-improvement.

2. Aims and research methods and sample groups

The karate culture provides an opportunity to present a psychological profile of people who practise karate. The values and ideals of karate culture should shape the psyche of people who practise karate regardless of their training goals: whether self-improvement or as a competitive sport. Specifically, karate-athletes and karate-traditionalists (as people shaped by the culture of karate) should stand out as people whose aggressiveness indicators are higher in comparison with other athletes and the rest of the population. The aim of this study is to evaluate whether in fact this is the case.

If it is accepted that the cultural values of karate have a real impact on trainees then an uncommonly low aggressiveness level (measured in BD-100 categories) and very low rates on the scale of aggressiveness, would be expected in *karatekas*. But modern karate practitioners are primarily active athletes and it is quite possible that their psyche and behaviour are more strongly determined by the requirements and specific values of competitive sport than the 'pure' cultural ideals of karate. If this is the case these *karatekas* should be characterized by aggressiveness levels similar to athletes in other disciplines in

other words, less “perfect” than would appear from the postulated cultural values of karate.

Having stated this as the research aim of this work, the following hypotheses were adopted to be verified:

1. Practising different styles of karate, with different rules of kumite, differentiates competing athletes in terms of aggressiveness.
2. The culture of karate or other sport has an impact on the level of aggressiveness of kumite practitioners. The hypothesis verifies the following options:
 - Karatekas participating in competitive sports are primarily athletes and have a similar level of aggressiveness compared to athletes in other disciplines;
 - All styles of karate are connected with karate culture and regardless of the style of kumite the level of aggressiveness of karate practitioners will be similar, but considerably lower than that of athletes practising other disciplines, as well as the rest of the population;
3. The more brutal a combat system, the greater is the aggressiveness of the kumite system competitors:
 - Are karatekas, whose system of competition (semi-contact) is the most distant from non-sporting combat/competition, characterized by a lower level of aggressiveness compared to competitors of other kumite systems?
 - Are karatekas, whose system of competition is most similar to non-sporting combat (mixed fighting), characterized by higher levels of aggressiveness than those competing in other systems of kumite?
 - Are karatekas who participate in knockdown and full contact (that is, partially restricting non-sporting combat in relation to semi-contact and mixed fighting) characterized by lower levels of aggressiveness than karatekas competing according to

the rules of mixed fighting, and higher than those of athletes competing in semi contact styles?

To measure levels of aggressiveness the study used the Aggression Questionnaire BD-100 developed by Buss and Durkee. In order to verify the reliability of respondents to the questionnaire Drwal and Wilczyńska’s Social Approval Questionnaire (SAQ) was used. For analysis of the research were used variance analysis as a basic method. In addition, one group T significance test and post-hoc tests were also applied. The study deliberately selected the four most developed and well-known styles of karate in Poland representing different systems of kumite sports combat: from the style with the most limited contact (semi-contact), to contact systems (knockdown, full contact) and finally to the system with minimal limits to the rules of combat (mixed fighting). These styles included: shotokan (semi-contact), kyokushin (knockdown), Oyama (full contact), shidokan (mixed fighting). Each group sample deliberately included thirty seniors: men aged from 18 to 39. Most of the competitors were at champion level, i.e. they had black belts and long experience in competitive fighting. They included current or former members of the national senior teams of a given style. In addition, the results obtained were compared with the results of a national orienteering team: 30 males aged 18-39 (as representatives of non-contact sport) and with the average results of Physical Education students at Wroclaw Academy of Physical Education. The reference sample of students included 2920 men aged 18-39 surveyed between 1980 and 2009.

3. Results

Correlations of the results obtained in the BD-100 test with respect to SAQ are not important. The data are not dependent on SAQ and not exposed to public approval.

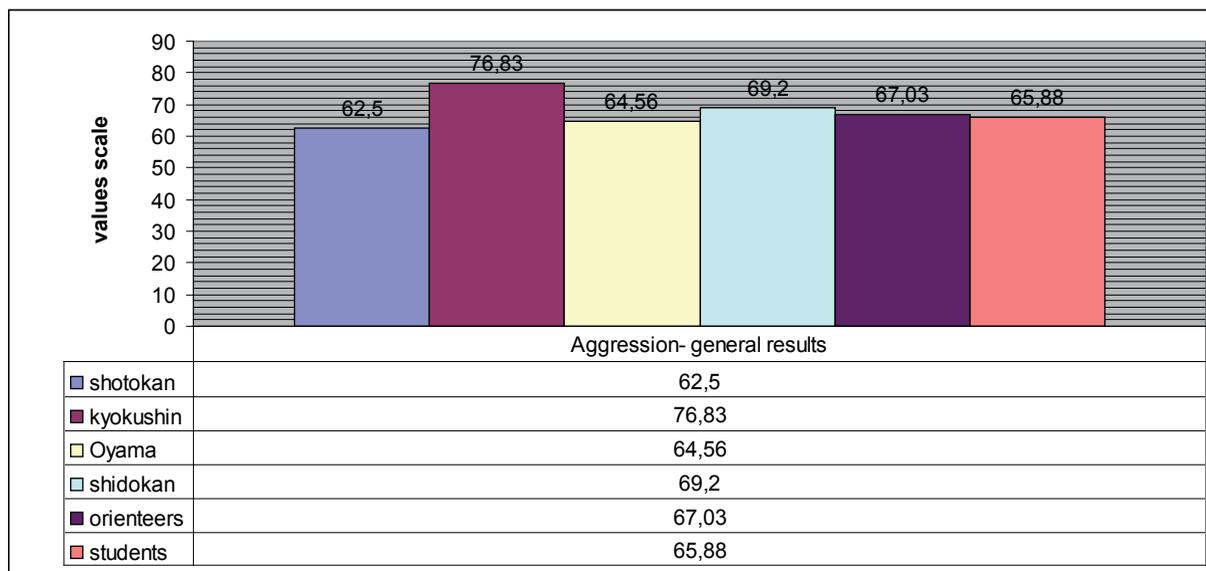


Fig. 1. Summary of the general results for aggressiveness using BD-100.

Source: authors’ own research

The general results for aggressiveness in BD-100 are shown in Figure 1.

ANOVA and post-hoc tests demonstrate that only kyokushin karatekas achieved a significantly higher overall aggressiveness score than practitioners of shotokan karate ($p < 0.028$), Oyama karate ($p < 0.009$), orienteers ($p < 0.035$) and students at the Academy of Physical Education ($P < 0.019$).

The raw results were converted into tetrons. Buss and Durkee (the authors of BD-100) have adopted the following interpretation for results: 1-3 tetrons – a very low score/result; 4-7 tetrons – a low score, 8-12 tetrons – an average score; 13-16 tetrons – a high score; 17-20 tetrons – a very high score. All subjects demonstrated an average overall level of aggressiveness measured in tetrons (Figure 2).

The analysis of the results at all scales of BD-100 (Figure 3).

Physical aggressiveness

Karatekas of kyokushin (knockdown) and shidokan styles (mixed fighting) demonstrated significantly greater physical aggression than shotokan karate (semi-contact) competitors – ($p < 0.031$, $p < 0.048$), Oyama style (full contact) competitors ($p < 0.044$, $p < 0.012$), and orienteers ($p < 0.019$, $p < 0.038$).

Verbal aggressiveness

There is only one statistically significant difference – between shotokan and kyokushin karatekas ($p < 0.037$).

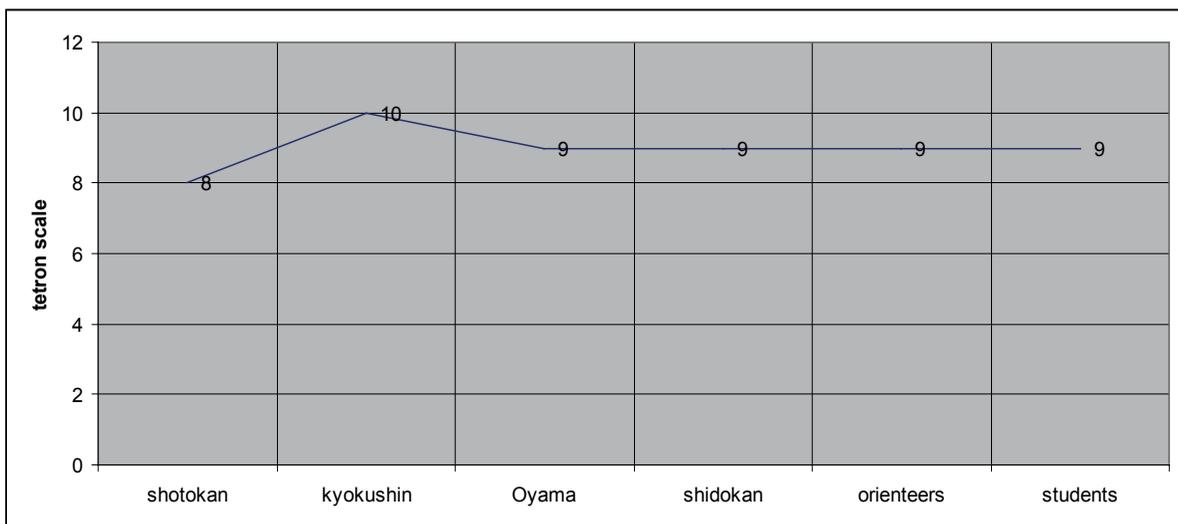


Fig. 2. Summary of general results of aggressiveness BD-100 in tetrons.

Source: authors' own research.

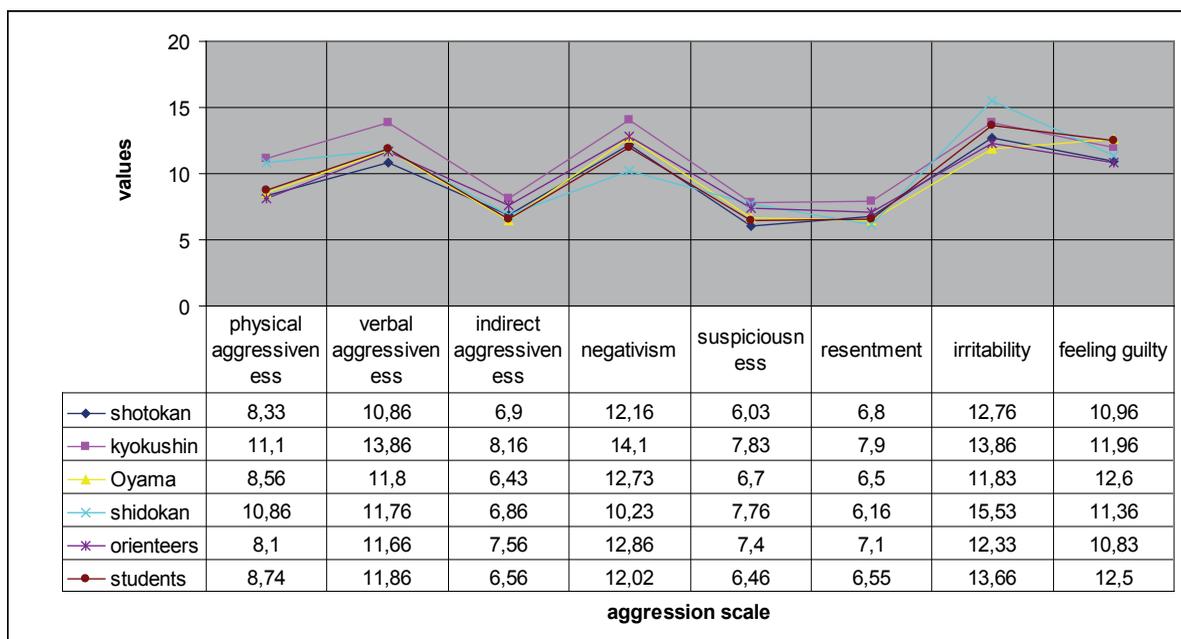


Fig. 3. Summary of all results on the BD-100 scale

Source: authors' own research.

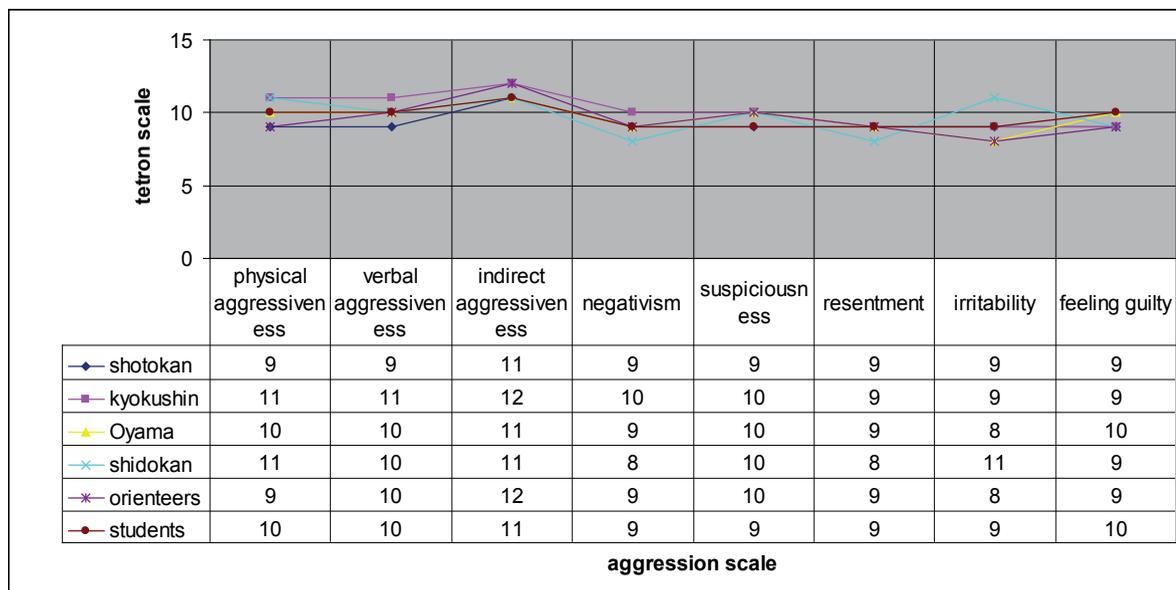


Fig. 4. Summary of all results on the BD-100 scale in tetrons.

Source: authors' own research.

Indirect aggressiveness

On this scale, there is no statistically significant difference.

Negativism

Kyokushin competitors demonstrate significantly higher levels of negativity than shidokan practitioners ($p < 0.0003$) and in comparison with the average scores of students of at the Academy of Physical Education ($p < 0.036$).

Suspiciousness

Only kyokushin karatekas (knockdown style) show a significantly higher level of suspicion ($p < 0.046$) than shotokan karatekas (semi-contact).

Resentment

Only kyokushin karatekas show a significantly higher level of resentment than shotokan practitioners ($p < 0.042$).

Irritability

Shotokan karatekas (mixed fighting) turned out to be more irritable than the Oyama (full contact) karate competitors ($p < 0.011$), and the orienteers ($p < 0.027$).

Feeling guilty

The scale of guilt does not show any statistically significant differences. All results on all BD-100 scales, after conversion into tetrons, are at an average level (Figure 4).

4. Conclusions

1. Practising different styles of karate, with different rules of kumite, does not differentiates compet-

ing athletes in terms of aggressiveness. Although kyokushin (knockdown) karatekas demonstrate a significantly higher overall score of aggressiveness than shotokan (semi-contact) and Oyama (full contact), karatekas, orienteers and students at the Academy of Physical Education, the overall results for aggressiveness in the test subjects (measured in tetrons) were at an average level.

2. It is sport itself has an impact on karatekas (kumite competitors) aggressiveness levels. Regardless of the brutality of the sport at the competitive level in kumite systems of karate, aggressiveness levels are average. Aggressiveness of the karatekas, regardless of the system practiced kumite, is typical for an athlete, and not that which would be expected adoption in its entirety establishment of a fully successful impact of the cultural values of karate.
3. Regardless of the brutality of sportsmanship systems kumite level of aggressiveness all karate is inadequate. All the subjects were averagely physical, verbal and indirectly aggressive. They also had an average negative attitude to life, of suspiciousness or resentment level towards other people. Karatekas are characterized by average irritability and feeling of guilt. Thus, the hypothesis that the more brutal the combat system, the greater the aggressiveness of competitors in the system is, cannot be confirmed.

5. Discussion

Following the research concerning aggressiveness leads to the conclusion that it is a sport itself, not the karate culture, which has an influence on kumite competitors. If the kumite karate culture were to affect karatekas,

then they should demonstrate low or very low rates in the general result and on all the aggressiveness scales. The data obtained reject the culture of karate, and confirm the significant impact of sport itself. Karatekas, fighting in the various forms of kumite and orienteers are averagely aggressive. It can be assumed that sport is a stomping ground for aggressiveness, regardless of the brutality of the sports competition. It may therefore be assumed that karatekas and orienteers are one social group: athletes. The study fairly confirms the assumption that the psychological profile of karatekas-traditionalists differs from the profile of karatekas-athletes [Nosanchuk 1981; Trulson 1983; Nosanchuk, McNeil 1989; Daniels, Thornton 1990; Skeleton, Glynn, Berta 1991]. To sum up: the results of the research tend to support the thesis that the psychological profiles of karatekas, regardless of the system of kumite practised, are typical profiles for athletes/competitors. They are not the profiles which would have been expected had an assumption on the impact of the whole value system of the karate culture been successfully adopted.

However, it is also important that the aggressiveness profiles of kumite karatekas competing in different systems, which vary in the levels of violence permitted, are essentially very similar. Furthermore, the results are "no worse" than those which have been identified among representatives of non-contact and non-aggressive sports, e.g. orienteering. This pattern of results suggests that perhaps the cultural values of karate "protect" mixed fighting competitors against destructive consequences of brutal competition to the psyche. Should one be guided by the theory of the social learning of aggression, one would expect that the representatives of shidokan karate (mixed fighting) should be clearly more aggressive and less conciliatory than other athletes, in particular orienteers. The results of the studies have not confirmed this state of affairs. It cannot therefore be concluded that the results obtained fully demonstrate the fact that the culture of karate affects karatekas (kumite competitors). But it is perhaps the culture of karate which is the "buffer", making the mixed fighting athlete (despite constant "brutality training") no different in their levels of aggressiveness than an orienteer practising a non contact sport.

References

- Bredemeier B.J., Shields D. (1984), Divergence in moral reasoning about sport and life, "Sociology of Sport Journal", no. 1, pp. 348-357.
- Bredemeier B.J., Shields D. (1986), Athletic aggression. An issue of contextual morality, "Sociology of Sport Journal", no. 3, pp. 15-28.
- Berger B.G., Owen D.R. (1988), Stress reduction and mood enhancement in four exercise modes – swimming, body conditioning, hatha yoga and fencing, "Research Quarterly for Exercise and Sport", vol. 59, pp. 148-159.
- Brown J.D. (1991), Staying fit and staying well. Physical fitness as a moderator of life stress, "Journal of Personality and Social Psychology", no. 4, pp. 555-561.
- Brown J.D., Siegel J.M. (1988), Exercise as buffer of life stress. A prospective study of adolescent health, "Health Psychology", no. 4, pp. 341-353.
- Choynowski M. (1972), Skrócony podręcznik do testu "Nastroje i Humory" A.H. Buss and A. Durkee, MoiW, Warsaw [in Polish].
- Cratty B.J. (1973), Psychology in contemporary sport, Prentice Hall Inc., New Jersey.
- Daniels K., Thornton E. (1990), An analysis of the relationship between hostility and training in the martial arts, "Journal of Sport Sciences", vol. 8, pp. 95-101.
- Dunn J.G.H., Dunn J.C. (1999), Goal orientations, perceptions of aggression and sport-personship in elite male youth ice hockey, "The Sport Psychologist", vol. 13, pp. 183-200.
- Drwal R.L., Wilczynska J.T. (1980), Kwestionariusz Aprobaty Społecznej, Ossolineum, Warsaw [in Polish].
- Hynan M., Esselman J. (1981), Victims and aggression, "Bulletin of the Psychonomic Society", vol. 18, pp. 169-172.
- Jarvis J. (1999), Sport psychology, Routledge, London.
- Kalina R.M. (1991), Przeciwdziałanie agresji – wykorzystanie sportu do zmniejszania agresywności, Polskie Towarzystwo Higieny Psychiczej, Warsaw [in Polish].
- Marsh H.W., Peart N.D. (1984), Competitive and cooperative physical fitness training programs for girls, Effects on physical fitness and multidimensional self-concepts, "Journal of Sport and Exercise Psychology", vol. 10, pp. 390-407.
- Nosanchuk T.A. (1981), The way of the warrior. The effects of traditional martial arts training on aggressiveness, "Human Relations", vol. 34, pp. 435-444.
- Nosanchuk T.A., McNeil M.L.C. (1989), Examination of the effects of traditional and modern martial arts training on aggressiveness, "Aggressive Behaviour", vol. 15, pp. 153-159.
- Piepiora P. (2007), Poziom agresji osób uprawiających karate shotokan a nietreningujących w wieku między 15 a 16 rokiem życia na przykładzie klubu sportowego MKS "Olimpia" Kowary [in:] F. Adamczuk [ed.], Międzynarodowa Konferencja Młodych Naukowców Szkół Wyższych Euroregionu Nysa – Jelenia Góra, May 29-30, 2007, Akademia Ekonomiczna we Wrocławiu, pp. 166-169 [in Polish].
- Skeleton D.L., Glynn M.A., Berta S.M. (1991), Aggressive behaviour as a function of Taekwondo ranking, "Perceptual Motor Skills", vol. 72, pp. 179-182.
- Stones T., Roland E. (2004), Handball and aggression: an investigation of adolescent handball players' perception of aggressive behaviour, "European Journal of Sport Science", no. 4, pp. 1-13.
- Szmajke A., Gorajczyk M. (2003), Klimat sportu: staż i poziom sportowy a gotowość do agresji oraz skuteczność w grze u kobiet uprawiających koszykówkę [in:] E. Wlazło [ed.], Psychologia grupy sportowej, Studia i Monografie AWF we Wrocławiu, vol. 69, pp. 155-179 [in Polish].

21. Tandy R.E., Laflin J. (1973), Aggression and sport. Two theories, "Journal of Health, Physical Education and Recreation", vol. 44, pp. 19-20.
22. Tenenbaum G., Sacks D.N., Miller J.W., Golden A.S., Doolin N. (2000), Aggression and violence in sport: a reply to Kerr's rejoinder, "The Sport Psychologist", vol. 14, pp. 315-326.
23. Trulson M.E. (1986), Martial arts training: A novel "cure" for juvenile delinquency, "Journal of Human Relations", vol. 39, pp. 1131-1140.
24. Witkowski K., Hajdrych T., Jaskolski E. (1995), Aggression in Judo [in:] R. Vanfraechem-Raway, Y. Vanden Auweele [eds.], 9th European Congress on Sport Psychology. Proceedings. Integrating laboratory and fields studies, Brussels, 4-9.02.1995, pp. 221-227.

Kultura karate a agresywność zawodników kumite

Słowa kluczowe: agresywność, agresja, karate, kumite, kultura

Abstrakt

Celem niniejszej pracy była próba weryfikacji trzech hipotez. Pierwsza z nich zakłada, że uprawianie różnych stylów karate, charakteryzujących się odmiennymi przepisami kumite, różnicuje zawodników w nich startujących pod względem agresywności; druga – że wpływ na poziom agresywności zawodników kumite ma kultura karate lub sport; trzecia zaś – że im bardziej brutalniejszy system walki, tym większa agresywność zawodników danego systemu kumite. Do badań wykorzystano Kwestionariusz Pomiaru Agresywności BD-100 i Kwestionariusz Aprobata Społecznej (KAS). Do analizy badań wykorzystano analizę wariancji, jednogrupowy test istotności T oraz testy post-hoc. Do badań wybrano celowo cztery style karate reprezentujące odmienne systemy walki sportowej kumite: shotokan (semi-contact), kyokushin (knockdown), Oyama (full contact), shidokan (mixed fighting). Dodatkowo uzyskane rezultaty zestawiono z wynikami biegaczy na orien-

tację (jako przedstawicieli dyscypliny sportu bezkontaktowego), oraz ze średnimi wynikami studentów wychowania fizycznego Akademii Wychowania Fizycznego we Wrocławiu.

Na podstawie uzyskanych wyników stwierdzono, że karateków walczących w semi contact (karate shotokan) cechuje istotnie niższy poziom wyniku ogólnego agresywności, napastliwości fizycznej, napastliwości słownej i podejrzliwości niż zawodników innych systemów kumite. Karatecy startujący w mixed fighting (karate shidokan) odznaczają się znacząco większym poziomem napastliwości fizycznej i drażliwości niż karatecy walczący w mniej brutalnych formach kumite. Karatecy reprezentujący knockdown (karate kyokushin) znamionują się istotnie większym wynikiem ogólnym agresywności, napastliwości fizycznej, słownej i podejrzliwości względem przedstawicieli semi contact (karate shotokan). Zaś w relacji do reprezentantów mixed fighting (karate shidokan) są znacząco mniej napastliwi fizycznie i drażliwi (full contact – Oyama karate) a relewantnie bardziej negatywni i czujący urazę (knockdown – karate kyokushin). Wszystkie wyniki karateków, biegaczy na orientację i studentów w skalach BD-100 mierzone w tetronach to przeciętne wskaźniki agresywności.

1. Rezultaty badań nie potwierdzają hipotezy, że uprawianie różnych stylów karate, charakteryzujących się odmiennymi przepisami kumite, różnicuje zawodników w nich startujących pod względem agresywności.

2. Wyniki badań przemawiają za hipotezą, że wpływ na poziom agresywności zawodników kumite ma sport. Agresywność karateków, niezależnie od uprawianego systemu kumite, jest typowa dla sportowca – zawodnika, a nie taka, jaką należałoby oczekiwać przy przyjęciu w całość rozciągłości założenia o w pełni skutecznym oddziaływaniu wartości kultury karate.

3. Efekt końcowy badań nie potwierdza hipotezy, że im bardziej brutalniejszy system walki, tym większa agresywność zawodników danego systemu kumite. Uzyskane wyniki dość jednoznacznie sugerują, że poziom agresywności karateków walczących w różnych systemach kumite jest właściwie bardzo podobny do poziomu agresywności zawodników biegu na orientację i studentów AWF Wrocław.