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Comparative analysis of the level of aggression between the women practicing judo and Brazilian jiu-jitsu

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Outline:

Aim: Comparison of the level of aggression between the women practicing judo and Brazilian jiu-jitsu against the average aggression level among Polish women.

Materials and methods: A group of 30 women practicing judo and a group of 27 women practicing jiu-jitsu were tested by using a questionnaire to show the aggression level- 'Aggression questionnaire' by Buss, Amity Institute with Polish adaptations.

Results: The total decreasing in the aggression level was observed among the group of women practicing judo and partial among women practicing Brazilian jiu-jitsu.

Conclusion: A longstanding practice of Brazilian jiu-jitsu by women results in decreasing of aggression level, what can be later used during planning therapeutic schemes.

Key words: analysis, aggression, women's judo, jiu-jitsu

Introduction

Aggression is a skill used for surviving; a man developed a drive for fighting so sport can be used as a social neutralizer of the destructive drives. There are many types of aggression, which relate with one another. Aggression can be divided into instrumental and hostile. Instrumental aggression is a behavior when our acting can harm somebody; however, the intention of this behavior is to achieve another behavior, e.g., to score a point; on the other hand, hostile aggression is a behavior directed into harming somebody [1].

Due to its multidimensional character there is also a division into accepted and unaccepted aggression. Accepted aggression occurs when it has instrumental traits- a player gets angry which motivates him/ her to continue the game according to the rules; unaccepted aggression, on the other hand, is a type of hostile aggression when the above mentioned player gets angry and stops obeying the rules [2]. The process of aggression researches is to define the origins of it and factors that influence its level (decrease or increase). The results can help in observing and finding a proper solution to it.

Aggression is observed in public as well as in family, school and sport sphere. Sport can also play an educational and informative role, thanks to which elimination or decreasing of the frequency of aggressive behaviors is possible [3]. Comparing the results observed among men and women, the level of aggression is higher among men and they are also the perpetrator of the crimes more often. According to the US Federal Bureau of Investigation the ratio is 4.4 to

1. Analyzing the aggression level among women, the sport training decreases it significantly. Most of the aggression observed among the female players has the instrumental character, which means that they want to achieve the non-aggressive advantage using aggressive actions [4,5,6]. Women characterize high results in hostility to society, subconscious inclinations to aggression, indirect, verbal and physical aggression. At the same time they have a high result in the aggressive behaviors control.

Women, who practice judo, thanks to that kind of behavior ensure themselves with a higher sense of security, boost their self-esteem and satisfaction; and women who practice Brazilian jiu-jitsu must keep their mind ready to choose the proper strategy which will lead to defeating the opponent, what can be also useful in many real life situations [7,8,9,10,11].

Because of the numerous publications in the field of psychology of judo and other martial arts players, the authors [12,13,14,15], think that presented comparative analysis will expand the knowledge of this very important social occurrence, which is aggression.

Materials and methods

In the researches concerning aggression, conducted in May and June 2018 around The Academy of Physical Education and Sport in Gdańsk and around the group of women practicing judo and Brazilian jiu-jitsu (Bjj) in Bydgoszcz, 30 women of different age practicing judo and 27 women practicing Brazilian jiu-jitsu took part in the research. They were actively practicing players and also former players who currently practice for pleasure.

The data for the research was gathered by completing the 'Aggression questionnaire' by Buss, Perry, Amity Institute (according to on-line Polish version with the consent of the authors). There were four questions added to the questionnaire about the length of a sport career, the length of practicing for pleasure, education (values 1-5) and self-evaluation of the social status (values 1-5)- the results were presented on the order scale.

The gathered data was compared against each other and related to the on-line data from the 'Amity' Institute. For statistical purposes programmes like Excell 2007 and Statistica 6 were used. There were average values of aggression components marked (physical aggression, verbal aggression, anger and hostility) for each group, there were statistically important differences marked for different/ equal variations and the determination index R^2 was marked on the regression charts.

The researches results were shown in tables Tab. 1-2 and on charts Graphs. 1-3.

Results

Table 1. The basic personal data about both researched judo groups

	Age (years)	Range (years)	Length (years) of a sport career	Length (years) of training for pleasure	Education	Self-evaluation of social status
Group of Bjj women n=27	25,9 ± 7,7	18,0 - 37,0	5,4* ± 2,8	4,1 ± 4,2	3,2 ± 1,5	3,5 ± 0,9
Group of judo women n=30	25,6 ± 8,4	16,0 - 48,0	11,9* ± 4,1	4,5 ± 6,2	3,2 ± 1,3	3,5 ± 0,7

* - differences statistically important at the level $p < 0,05$ in the same table's column

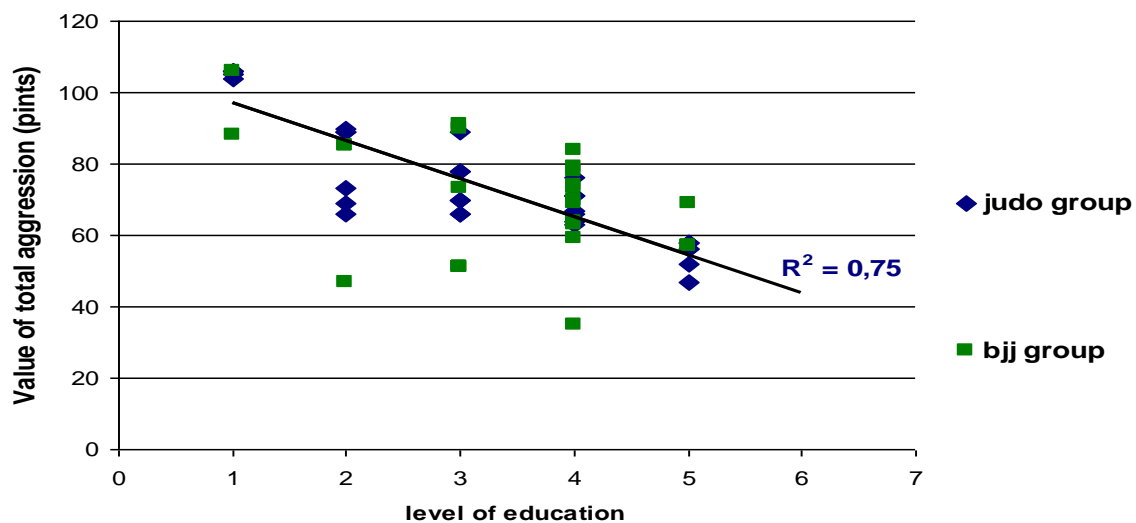
The data gathered in the Table 1 shows that the age, level of education, the length of training for pleasure and self-evaluation of the social status do not differentiate individuals from judo group and Brazilian jiu-jitsu group.

Only the length of a sport career is higher in judo group at the statistically important level.

Table 2. Numerical values of the measurement of aggression and its components in both researched groups and 'Amity' Institute aggression and its components values.

	Anger	Physical aggression	Hosility	Verbal aggression	Total aggression
Group of Bjj women n=27	17,4*	18,8*	17,6*	14,1	68,1
Group of judo women n=30	19,4* ± 4,2	19,7* ± 5,1	20,4* ± 5,2	14,4 ± 4,4	74,0 ± 16,5
On-line group of 'Amity'- women	19,2	18,9	21,8	14,5	74,3

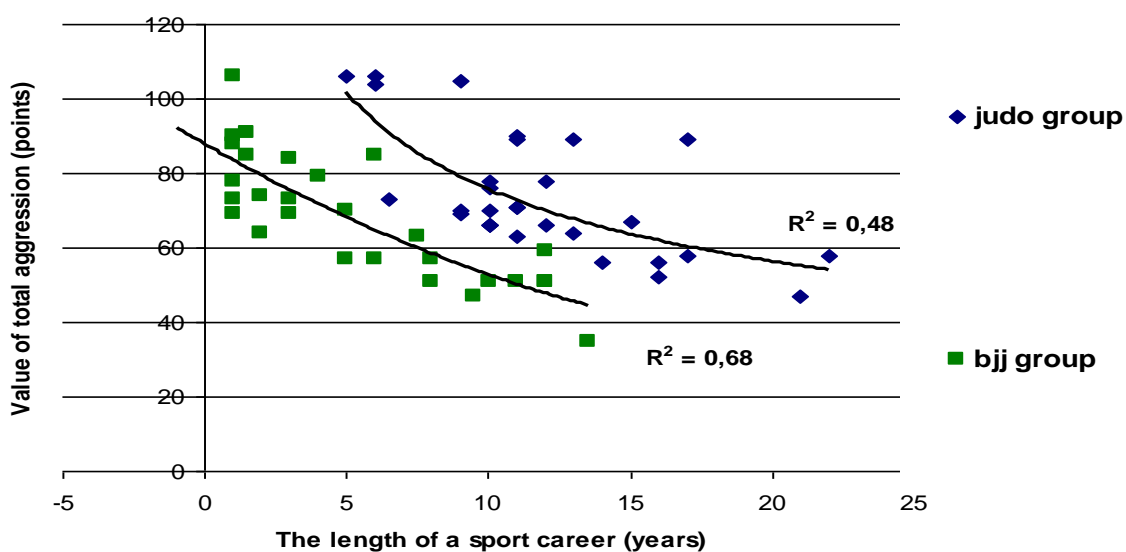
* - differences statistically important at the level $p < 0,05$ in the same table's column



Graph 1. The relationship between total aggression values and the level of education in both researched groups.

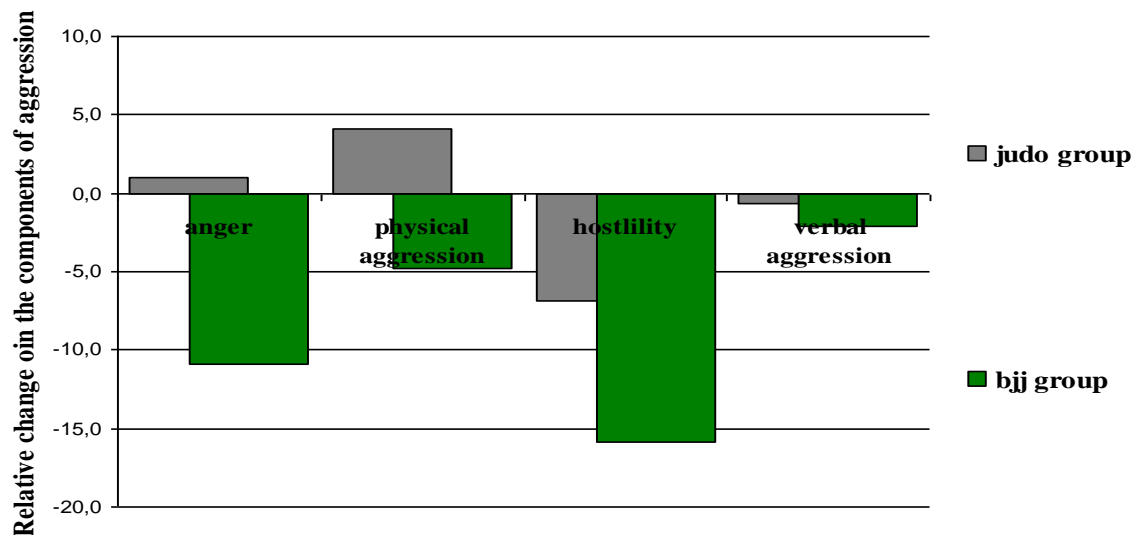
There is a visible relation between decreasing aggression level with the increasing the level of education in the group of women practicing judo at the statistically important level $R^2=0,75$, and lack of that relation in the group of women practicing Brazilian jiu-jitsu.

Graph 2. shows the relation between total aggression values and the length of a sport career, while Graph 3. shows the relative values of aggression components measured against the control group of women studied by the 'Amity' Institute.



Graph 2. The relation between total aggression level and the length of a sport career.

Graph. 2 shows that in both researched group there is a visible decrease in total aggression values together with the length of a sport career. Determination index $R^2=0,48$ and $R^2=0,68$ are statistically important at a very high level.



Graph 3. A chart showing relative values of all aggression components measured against the control group of the ‘Amity’ Institute.

A chart of relative values Graph 3. shows that the biggest difference in both groups of women practicing judo and Brazilian jiu-jitsu are observed between hostility values measured against ‘Amity’ Institute on-line values. Hostility in both judo and Brazilian jiu-jitsu groups are at the lower level than the on-line population.

At the same time it is worth mentioning that all aggression components values in the group of women practicing Brazilian jiu-jitsu are lower than in the group of Polish women questioned on-line by the ‘Amity’ Institute; whereas in the group of women practicing judo changes of aggression components are not differentiated- anger and verbal aggression are at the higher level than in the ordinary group studied by the ‘Amity’ Institute.

Discussion

Data shown in Tab.1 shows that women in researched groups (judo and Brazilian jiu-jitsu) were at the similar age, had the same education level and they assessed their social status at the same level. It allows comparing both groups. However, comparing the length of a sport career and the length of training for pleasures with the age of the participants allows only to suggest that judo player start their trainings earlier.

Only the length of a sport career in the judo group is higher at the statistically important level. History, judo's Olympic prestige as well as judokas beliefs seem to provide the explanation for beginning a sport career earlier in this discipline and so the longer duration of a sport career in this group.

The data analysis proved that self-evaluation of the social status does not show any relations with any other variable. This situation can be the background for farther researches to find the answer whether sport can equalize the social status of the athlete [16]. Because in sport the nationality of the athlete and his/her wealth or education do not count [17] - what matters is his/her abilities (physical and also mental) [18], which lead to victory.

The data gathered in Tab. 2 show that three components of aggression (hostility, physical aggression and anger) are at the significantly higher level in judo group than in Brazilian jiu-jitsu group.

At the same time the results suggest that values of the aggression components in the group of women practicing Brazilian jiu-jitsu are lower than in the group of Polish women studied on-line by the 'Amity' Institute, what can be linked with more aggressive character of Brazilian jiu-jitsu trainings which can be a foundation to relieve negative emotions including aggression. Women who do not practice any martial arts often do not have the opportunity to reduce tension of their life [19].

An interesting case is the analysis of the relation between women education (Tab.1, Graph 2.) and total aggression level. In judo group the negative relation appears whereas in the Bjj group there is no relation like that. Considering the reasons of that situation at this point one can find an answer in the values in the education of the Bushido codex [20].

The chart Graph 2. points that in both researched groups the level of aggression is decreasing along with the length of a sport career. On the assumption that that situation can be linked with the values of sport in mental life of an individual [21], a possible cause responsible for that situation can be a fact that along with the length of a sport career there is an increase in players' achievements what can diminish the sense of necessity and a will to win which reduces the level of aggression. A similar relation was observed during studies on aggression level among female and male judokas [22].

The chart Graph 3 indicates that the level of hostility in both researched groups is lower than in the group of non-practicing judo or jiu-jitsu. It can be suggested that sport softens the hostility level as well as can be the way to relieve everyday tension experienced by individual [23,24].

In the group of women practicing judo anger and verbal aggression are at the higher level than in the group of ordinary women studied by the 'Amity' Institute, but because of the lack of data from the 'Amity' Institute it is currently not possible to check the statistic importance of that situation.

As the results show aggression in a common occurrence in sport and in everyday life. It can be researched to make a foundation to create schemes for regulating it intensification and in the extreme cases a social recovery program.

A program based on practicing elements of Brazilian jiu- jitsu and some judo seems to meet the requirements.

Conclusion

1. A longstanding training of Brazilian jiu-jitsu effects in a lower level of aggression among women practicing this discipline, what can be a foundation for planning social therapeutic schemes.
2. A dominating component of aggression, which decrease in a most significant way in both researched groups (judo and Bjj), is a sense of hostility.
3. The role of self-evaluation of the social status should be subjected to separate researches at the angle of egalitarian character of the above mentioned sport disciplines.

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