

THE EFFECTS OF BOXING PRACTICE ON YOUNGSTERS' BEHAVIOR

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Abstract: *Many people nowadays believe that combat sports, and especially boxing, promote violence and aggressiveness. The mass media have played a major role in shaping the perception that the practice of martial arts in fact, attracts violent individuals or promotes aggressiveness especially in young people. Due to the conflicting nature of these kinds of sports, there have always been conflicting views regarding their influence on young people's behavior. The question is whether and to what extent combat sports can affect the rate of aggression among the young. The purpose of the present research is to evaluate the anger level as an element of aggression among boxing athletes and other sportsmen. The results did not indicate any difference between boxers and other sports athletes in terms of aggressiveness. Yet, research suggests there's significant deviation with regards to stress predisposition, which then correlates with some parts of aggressiveness.*

Key words: *boxing, violence, rate of aggression, level of education, others sports athlete.*

1. Introduction

Participation in martial arts: Judo, Karate, Taekwondo, Tai boxing, Kickboxing and boxing, has a worldwide acceptance. For example, in France, Canada, Finland, Australia and Belgium martial arts are on the list of ten most popular sports among children and teenagers (according to [1], Nederland's Hartstichting NOC*NSF, 2007; [17], [21], [23], Culture, Tourism and the Centre for Education Statistics, 2008). In fact, martial arts are classified among the ten most popular sports [3] according to Ministère

de la jeunesse des sports et de la vie associative, 2002).

Particularly, in the past years in Boxing there has been a growing increase in participation of young people. According to the evidence being presented by the World International Boxing Association (AIBA), there are twelve million registered boxers, one million boxing clubs and one million and a half boxing trainers at the global level [24]

Boxing has been many times at the forefront of controversy and scientific discussion. Not few are the medical scientists who have requested a ban on

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Boxing from youth sports under the age of sixteen for philosophical, medical and moral reasons (American Academy of Pediatrics, 1997 & [12]). Pearn 1998, for example, proposed that “there is no place in contemporary society for a youth sport which has, as its primary goal, the infliction of acute brain damage on an opponent” (p. 311). In addition, the British Medical Association has displayed a great interest in the direction of striving for the ban on Boxing in United Kingdom [18], [8].

The Achilles’ heel of boxing seems to be the aggressiveness demonstrated by the boxers in fighting matches, as well as the concern that boxing training simultaneously involves the acquisition of manifestations of aggressive behavior and generalization of this kind of behavior outside the ring [2].

Aggressiveness is considered to be an integral characteristic of boxing [14] and its lack is punished in all combat sports [7].

The way that boxers perceive the anger, is as an undesirable and unacceptable quality considering in other words that only controlled aggression can be useful. The great majority of feel that performance can be improved only if emotions are locked far away from the ring. This point clearly shows that most boxers comprehend that aggressiveness and intimidation can have a negative impact not only on their self-esteem but also on their performance. Taking into consideration that this is something that has to be applied evidently the emotional control constitutes an important aspect of overall boxing performance [16].

2. Purpose

Aggressiveness is a dynamic action leading to a target which can be verbal or

physical and can be equivalent to a movement of fury, anger and hostility. [10]. Although sports participation implies a lot of positive aspects, the matches require aggressive behavior [20].

Aggressiveness has been divided into two categories: hostile and instrumental. The purpose of the hostile or reactive aggression incited by anger is determined to cause injury or psychological harm to someone else without any ultimate purpose. In contrast to this, the purpose in instrumental aggression is to harm your opponent with the aim of increasing your chances of winning [20], [22].

It has been advocated that sports are capable of producing not only positive but also negative results [11], depending each time on the different conditions and requirements under which athletes are trained. For example, the negative effects of power sports on young boys do not derive from sports training but from the repeated contact with life attitude, rules and beliefs of “macho” culture ([9], [13]).

2. Research Methods

In our study 115 individuals took part, 61 of them had been engaged in boxing activity at least for two years, whereas the other 49 were engaged in other sports (basketball, football and volleyball, track and field).

The sample included both sexes (70.9% boys and 29.1% girls), participants' age ranged from fifteen years (15) to thirty-eight (38) years ($M=23.65$, $SD=5.43$). 55.5% per cent of them had been engaged in boxing and the other 44.4% per cent were involved in other sports.

The years of experience ranged from 2 to 22 years, whereas the participants' engagement level was as follows: 41.8% pros and 52.8% amateurs. Education level:

19.1% attended from primary school to high-school, 80.9% attended college education.

Family status: 79.1% both parents lived together, whereas 20.9% were divorced, one parent family, orphan or any other status.

Father's education level: 50.9% attended from primary school to high-school and 49.1% received a post-high-school education.

Mother's education level: 59.1% attended from primary school to high-school and 40.1% received a post-high-school education.

The sample was selected randomly from: athletes that attended the course of Boxing in the "School of Sports Science of "National and Kapodistrian University of Athens", and fourteen boxing clubs located in the prefecture of Attica. More specifically from: "Promachos B. C.", "Diagoras Amarousiou B. C.", "Hercules Ag. Anargyron B. C.", "Ira Nikaias B.C.", "Alexander Koridalou B.C.", "A. B. C. Peramatos", "Champion B.C", "A.E.K. G. C.", "Aris Nikaias G.C.", "Polideykis B. C.", "Caestus B. C.", "Amarousion B.C" and athletes from the general population of Attica.

2.1. Data Collection Process

The data collection process was carried out with the help of the Boxing Coach Association. Initially, the researcher came into contact with boxing clubs from which participants for this survey were gathered. Then, after consultation with coaches, all the athletes read and signed the consent form and filled in the Questionnaire. Questionnaires were provided to all the participating students, of the elective course at the department of boxing at the School of Physical Education and Sport

Science of the University of Athens, to have them filled in.

2.2. Measurement Instruments

Because of the nature of work the only tool required was the questionnaire which is divided into four thematic parts. In the first part of the questionnaire there is the consent form which should have been signed as a proof of their voluntary participation. Furthermore, in the first part we have the participant's demographics which provide significant information for the population in this research.

Subjects participating in this research filled in the following questionnaires:

TAI - Questionnaire of (State-Trait Anxiety Inventory; STAI; Spielberger, Gorsuch, & Lushene, 1970; Spielberger, Gorsuch, Lushere, Vagg, & Jacobs, 1983; Kakkos, Ekkekakis & Zervas, 1991).

According to the theoretical construction basis the state -Trait-Anxiety Inventory consists of two scales: (A-State scale) and (A-Trait scale).

A-Trait scale comprises of 20 questions, to which the examinees answer in association with their general well-being. This scale measures individual differences in the way the individuals experience anxiety in their daily life. A-Trait high scale values appear in the individuals who are vulnerable to perceiving and interpreting social states as more menacing. Moreover, high scale values are demonstrated by individuals who react with considerable tension in difficult situations, that is, they tend to display high values in A-State scale.

A-Trait Scale is provided and instructed to be answered according to what "generally" prevails in the individual's life. Each question is accompanied by a fourth degree scale answer requiring responses

based on the frequency of the emergence of behavior being described. The total scale value ranges from 20 to 80. The α Cronbach A-Trait scale indicator in the Greek population ranges from .84 to .86

SES - Self-Esteem Scale; Rosenberg, (1965); Psychountaki, Stavrou, & Zervas, 2006.

Self-Esteem Scale Rosenberg (1965) consists of 10 questions which constitute one factor. This refers to the participant's self-evaluation. The Greek population scale demonstrates satisfactory psychometric characteristics. The α Cronbach internal consistency scale indicator is .82. As far as the structural validity of the Questionnaire is concerned, it is clear that even in the Greek population-with exploratory factorial analysis (MA=.852 and Bartlett's Test of Sphericity $p < .001$, $N=322$)- the single factor structure is maintained.

In order to calculate the final rating of the questionnaire the grading of question 4,6,8 and 10 are reversed and then are all to be added to one factor.

Aggression Q - Aggression Questionnaire; Buss & Perry, 1992; Bozonis & Psychoundaki, 2005.

The aggression questionnaire of Buss and Perry (1992) consists of 29 questions evaluating the individual's tendency towards aggressive thoughts, emotions and behavior. The questionnaire consists of four factors which-in the Greek population-define 44,2% of the total ranging. These factors are: physical attack (2, 5, 8, 11, 13, 16, 22, 25, 29), verbal attack (4, 6, 14, 21, 27), anger/rage (1, 9, 12, 18, 19, 23, 28) and hostility (3, 7, 10, 15, 17, 20, 24, 26). From the theoretical point of view, these factors represent the overall components of the aggression concept. The physical and verbal attack factors comprise of those questions related

to the functional or behavioral elements of aggression the factor of anger/rage reflects the emotional element and the factor of hostility represents the cognitive element of aggression.

Aggression Questionnaire; Buss & Perry, 1992; Bozonis & Psychountaki, 2005, comprising of 29 questions. Cronbach index factors of inward consistency, put to the test in Greek population are as follows: physical aggressiveness .81, verbal aggressiveness .56, anger/wrath .81, enmity .75 and general aggressiveness .88 (at the conclusion of the analysis there's data tables with demos).

2.3. Statistical Analysis Method

The statistical analysis used was the comparison of two means: comparing the t-method and the Pearson r method respectively. The results have emerged from the statistical data process collected from the questionnaires filled in by the boxing athletes and by the athletes of other sports with regards to their self-esteem A-State/ A-Trait Anxiety and Aggressiveness.

The participants of this survey were 110 individuals (70.9 % boys, 29.1% girls). The age rate ranged from 15 to 38 years old ($M=23.65$, $SD=5.43$). 55.5% were engaged in boxing and the other 44.5% were involved with different sports (for example, basketball, football, volleyball, track and field, etc.). Years of experience ranged from 1 to 22. Involvement levels 41.8% professional, 58.2% amateur. Educational level, 19.1% ranging from Elementary to High School Education, 80.9% Higher Education. Marital Status, 79.1% parents living together, and 20.9% divorced, single-parent family, orphan and other. Father's Education level, 50.9% ranging from Elementary to High Education and 49.1% Higher Education.

Mother's Education level, 59.1% ranging from Elementary to High Education and 40.1% Higher Education.

3. Results

Correlations among self-esteem, A-State, A-Trait and aggressiveness

Table 1 demonstrates, using Pearson's index r , the comparisons between self-esteem, stress pre-disposition and aggressiveness, which are further divided into five parts: Enmity, Wrath/Anger,

Verbal Aggressiveness, Physical Aggressiveness and General Aggressiveness. As is made clear, self-esteem has no relation to Stress Predisposition or Aggressiveness. On the contrary, stress predisposition has a significant correlation to Enmity and Wrath/Anger elements that are the part of the overall Aggressiveness. Consequently, the overall Aggressiveness is highly related to enmity, wrath/anger, verbal aggressiveness and physical aggressiveness.

Table 1

Correlations among self-esteem, A-State, A-Trait and aggressiveness

	Self-esteem	Stress predisposition	Enmity	Wrath /anger	Verbal aggressiveness	Physical	Self-esteem
Variables	R	R	R	R	R	R	R
Self-esteem	1	-0,017	-0,167	-0,037	-0,009	0,056	-0,05
Predisposition	-0,017	1	0,374**	0,270**	0,017	-0,115	0,176
Enmity	-0,167	0,374**	1	0,427**	0,244*	0,102	0,607**
Wrath/anger	-0,037	0,270**	0,427**	1	0,465**	0,495**	0,814**
Verbal aggr.	-0,009	0,017	0,244*	0,465**	1	0,501**	0,703**
Physical aggr.	0,056	-0,115	0,102	0,495**	0,501**	1	0,769**
Total aggr.	-0,05	0,176	0,607**	0,814**	0,703**	0,769**	1

**Deviation is significant at level 0.01

*Deviation is significant at level 0.05

Variations according to sex

To assess the data we used the t-test for the free-lance samples. By virtue of the analysis made, table 2 indicates significant deviations in terms of stress predisposition

factor and physical aggressiveness. Girls present a higher average mean of stress predisposition ($M=48.81$) whilst boys a higher average mean of physical aggressiveness ($M=22.37$).

Table 2

Variations according to sex

	Male	Female	
Variables	M (SD)	M (SD)	p.
Self-esteem	M=31,05 (SD=2,94)	M=31,31 (SD=2,81)	NS
Stress predisposition	M=44,41 (SD=4,32)	M=48,81 (SD=4,70)	S(p=,000)
Enmity	M=18,11 (SD=5,62)	M=19,10 (SD=5,87)	NS
Wrath/anger	M=19,20 (SD=4,75)	M=20,66 (SD=5,69)	NS
Verbal aggressiveness	M=15,96 (SD=3,79)	M=16,87 (SD=3,31)	NS
Physical aggressiveness	M=22,37 (SD=7,10)	M=18,50 (SD=6,22)	S(p=,008)
Total aggressiveness	M=75,65 (SD=16,07)	M=75,12 (SD=14,51)	NS

Variations according to age

To assess the data we used the t- test analysis for the free-lance samples. Table 3 illustrates statistically significant variations

of the stress predisposition factor. Individuals under 22 years of age demonstrate a higher average mean price of stress predisposition (M=46.44).

Table 3

Variations according to age

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Variables	M (SD)	M (SD)	p.
Self-esteem	M=30,84 (SD=2,55)	M=31,51 (SD=3,28)	NS
Stress predisposition	M=46,44 (SD=5,35)	M=44,68 (SD=3,92)	S(p=,049)
Enmity	M=18,95 (SD=5,45)	M=17,66 (SD=5,96)	NS
Wrath/anger	M=20,09 (SD=4,61)	M=19,00 (SD=5,59)	NS
Verbal aggressiveness	M=16,71 (SD=3,24)	M=15,57 (SD=4,11)	NS
Physical aggressiveness	M=20,63 (SD=6,68)	M=22,06 (SD=7,53)	NS
Total aggressiveness	M=76,40 (SD=14,82)	M=74,30 (SD=16,61)	NS

Comparison between boxer and other sports athletes

To assess the data we used the t-method for the free-lance samples. Table 4 suggests that other sports athletes present

significant variations of the stress predisposition factor compared to boxers. The former has a highest average mean price of stress predisposition (M=47.10)

Table 4

Comparison between boxer and other sports athletes

	Sport of Boxing	Other Sports	
Variables	M (SD)	M (SD)	p.
Self-esteem	M=31,36 (SD=3,27)	M=30,84 (SD=2,33)	NS
Stress predisposition	M=44,56 (SD=4,63)	M=47,10 (SD=4,80)	S(p=,006)
Enmity	M=18,21 (SD=6,06)	M=18,63 (SD=5,23)	NS
Wrath/anger	M=19,28 (SD=5,20)	M=20,06 (SD=4,90)	NS
Verbal aggressiveness	M=16,15 (SD=3,41)	M=16,33 (SD=4,00)	NS
Physical aggressiveness	M=21,31 (SD=7,53)	M=21,16 (SD=6,49)	NS
Total aggressiveness	M=74,95 (SD=15,71)	M=76,18 (SD=15,53)	NS

Differences based on the athletes' experience related to self-esteem, A-state, A-Trait and aggressiveness.

For the valuation of data, T-test analysis was used for independent participants. From the analyses carried out, not statistically significant differences emerged among athletes involved in sports professionally and those involved in them as amateurs.

Variations according to the level of education

To assess the data we used the t-method analysis for the free-lance samples. Table 5 manifests statistically significant variations in reference to self-esteem between individuals of up-to high school education and post-high-school education with the latter having a higher average mean price of self-esteem (M=31.39).

Table 5

Variations according to the level of education

	Up-to high school education	Post-high school education	
Variables	M (SD)	M (SD)	p.
Self-esteem	M=30,00 (SD=3,08)	M=31,39 (SD=2,79)	S (p=,046)
Stress predisposition	M=44,48 (SD=5,16)	M=45,98 (SD=4,76)	NS
Enmity	M=19,33 (SD=6,13)	M=18,18 (SD=5,59)	NS
Wrath/anger	M=20,90 (SD=5,68)	M=19,32 (SD=4,88)	NS
Verbal aggressiveness	M=16,81 (SD=3,12)	M=19,09 (SD=3,78)	NS
Physical aggressiveness	M=23,43 (SD=9,30)	M=20,73 (SD=6,37)	NS
Total aggressiveness	M=80,48 (SD=17,43)	M=74,32 (SD=14,97)	NS

Variations according to family status

To assess the data we used the t-method analysis for the free-lance samples. The findings suggest that there are no significant variations between individuals

coming from families that live together and individuals from divorced families, one parent family, orphans, or any other family status.

Variations according to father's education

To assess the data we used the t-method for the free-lance samples. We see no statistically significant variations between individuals whose father had an up-to-high school education and those whose father had a post-high school education.

Variations according to mother's education

To assess the data we used the t-method for the free-lance samples. We see no statistically significant variations between individuals whose mother had an up- to high school education and those whose mother had a post- high school education.

4. Conclusion

Boxing is a controversial issue having received considerable criticism concerning its contribution to society, meaning its risk and violence as well as the risk of it promoting violent instincts leading the youth to antisocial behavior. It goes without saying the history of boxing consists of medical and moral controversy. [4].

This study aimed at revealing whether or not engaging in boxing activity has a positive effect on youngsters, diminishing the violent inclination that the latter may produce. As the findings suggest, engaging in boxing activity does not directly reduce violent inclinations, but it does so indirectly. This is due to the fact that individuals involved, compared to other sports athletes, exhibit a lower stress predisposition, which relates to two factors of aggressiveness: wrath/anger and enmity.

Moreover, there are some very important factors that need to be taken into

consideration. The fact that post-high school individuals have a higher self-esteem than those of up- to high school education; individuals under the age of 22 have a rather higher stress predisposition compared to those of over 22; the fact that girls have a higher stress predisposition compared to opposite sex counterparts.

And last but not least, boys show a higher average mean of physical aggressiveness compared to girls.

Based on all the above findings, it can be concluded is that engaging in boxing might help reduce the stress predisposition, for it is indirectly related with aggressiveness. Yet, in order to objectively assess the utility of boxing, one must conduct an in-depth research on potential effects on youngsters through measurements of particular individuals that will start from the very basics of the individual's first contact with the sport and will be repeated periodically every six months, on a two-year run. The degree of significance of other factors of great influence should be examined as well, such as: the type of guidance, the structural features of the sport, the participants' characteristics, the social frame [5]. Patrikson, 1995 [11] and [15] and the general cultural influence of the sport [6]. While in teaching martial arts various instructive approaches are implemented by the trainer (traditional teaching, educational teaching and teaching performance) [19].

Training in the sport of boxing in contrast to other combat sports for example Karate, Thai boxing, Aikido, Judo e.t.c. does not reflect a traditional style but only a competitive style.

For this reason, the training of boxers has obviously a competitive approach. Actually, what has to be examined in this

particular sport is the type of teaching implemented in the training of boxers - educational teaching or an instructive approach.

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