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The Prevalence of Anxiety, Aggression, and Hostility at Sportswoman: A Study on Boxing

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Abstract

The study of various types of psychological manifestations in women athletes in age groups, in such a primordially masculine form of martial arts, such as boxing, is very relevant and in demand in the study of modern women's sports. This article presents the materials of a study devoted to the identification among women boxers of different age groups of the psychological manifestations of aggressiveness, hostility and their types, as well as personal and situational anxiety during the pre-start period of their sports activities, as well as methods and means of overcoming them by athletes. The aim of the article is the presentation and analysis of the identified indicators of the level of aggressiveness, hostility, personal and situational anxiety in athletes of the studied groups. In the study, we used a survey of athletes, according to the method of Bass-Darki (in the modification of A.K. Osnitsky) and the determination of indices of aggressiveness and hostility, to determine the level of aggressiveness (external manifestation) to specific individuals and the hostility (and its orientation toward the external environment) of the person under study; determination of the degree of personal and situational anxiety of athletes in the pre-launch period, using a test questionnaire according to Ch.D. Spielberger (adapted by V.Yu. Khavkin); extended interviewing method. It was reliably established that in all age groups of athletes (n = 127), different increased levels of aggressiveness were present in 40 (31.50%). A high level of hostility was identified in 39 (30.71%) of all athletes. It was also revealed that all high levels of personal anxiety were identified in 41 (32.28%) athletes of all age groups, and in 46 (36.22%) of all athletes - all high levels of situational anxiety. When conducting extended interviews, it was found that all representatives of different age groups have no aggressiveness directed at rivals. The manifestations of verbal aggression predominate, mainly among athletes of puberty and youthful ages. It was determined that personal and situational anxiety prevails among young athletes with a small sports record and an insufficient level of experience in participating in competitions at various levels. It is noted that the level of aggressiveness, hostility, personal and situational anxiety significantly decreases for all athletes, as their sports experience, professional skill, and competitive experience increase.

Keywords: Women's boxing, athletes, psychological indicators, aggression and aggressive behavior, hostility, personal and situational anxiety.

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Introduction

The development and popularization of modern women's sports in the twentieth and early twenty-first centuries is rapidly growing and embracing an increasing number of young women who are looking for sports and, especially in the conquest of sports that were previously considered primordially masculine, the means to self-affirmation, vital self-realization and satisfaction of their "Ego" (*Bogdanova & Matafonova, 2015; Bugajevs'kyj, 2017; Damadaeva, 2011; Kitaeva, 2014*).

Many of the young women and girls attend sports clubs and sections specializing in various athletic sports, including boxing, which, as A. Baranova (2017), V. Lisicyn (2014), N. Sigal (2014) write about it. As indicated by V. Tristan (2013) and H. Eysenck (2011), boxing is very popular among women of different age groups in many countries of the world and in Ukraine.

The experience of most trainers (*Abadzhan & Sannikov, 2011; Saktagapova & Rodygina, 2016; Williams & Krane, 2014*) and modern research in the field of sports medicine and psychology (*Zhuneva & Starkova, 2017; Saktagapova & Rodygina, 2016; Tristan, 2013*), clearly shows that the path to excellence, achieving high results in women's boxing, as in any other sport, is directly related to the physical and often psychological characteristics of the personality of each female athlete. Good physical shape and high mastery of technical techniques can be offset by a weak or insufficient psychological preparedness of a female athlete, which in practice is directly related to success and sporting achievements (*Baranova, 2017; Bugaevsky, Rybalko, & Zukow, 2019; Damadaeva, 2011*), Lisicyn, 2014).

This statement also applies to psychological issues in modern women's boxing, primarily on issues of different levels of aggression and aggressive behavior, as well as problems of personal and situational anxiety of different degrees of manifestation in female athletes of all age groups (*Nehoroshkova, Gribanov, & Dzhos, 2017; Potoc'ka, 2017; Rogachjov & Majdokina, 2015; Eysenck, 2013*).

In this regard, the psychological problems of athletes, according to leading domestic (*Bugaevsky, Rybalko, & Zukow, 2019*) and foreign experts (*Sigal, 2014; Eysenck, 2013; Schaal et al., 2011; Williams, 2014*) in sports psychology, requires active psychological support in all types of women's sports, including and in women's boxing.

Overwhelmingly, as athletic experience increases, including training and competitive experience with participation in tournaments of different difficulty levels, older athletes have lower levels of aggressiveness and hostility than their young and less experienced colleagues. This, to the same extent, concerns the manifestations of personal and situational anxiety. Perhaps the reason for the manifestation of anxiety, aggressiveness and hostility, lies in age-related changes in the body and psyche of athletes, and may be related to the ability to manage their emotions and behavior at the level of formed competencies.

This paper purposes to study the causes, analysis, and assessment of indicators of the level of aggressiveness, hostility, personal and situational anxiety in women athletes of different age groups in boxing.

Materials and methods

The following methods of psychodiagnostics of anxiety, aggressiveness, and hostility in female athletes were used in the study: the technique of Spielberger-Hanina (*Nehoroshkova, Gribanov, & Dzhos,*

2017), which, in our opinion and opinion of H. Eysenck, J. Williams, V. Krane, is ideally adapted and available in practice when studying anxiety in any particular situation; the questionnaire of Bass-Darki, which makes it possible to determine the individual level of aggressiveness and hostility, their types and forms (*Bogdanova & Matafonova, 2015*).

For all the athletes who participated in the experiment, pre-prepared forms "Self-assessment scales of anxiety level according to Ch.D. Spielberger" (in the modification of Yu.V. Khanin), with the help of which the level of personal and reactive (situational) precompetitive anxiety was determined in the three studied groups of female athletes. The proposed test questionnaire consisted of 40 questions and was divided into two forms - to determine the reactive (situational) and personal anxiety of each of the athletes who participated in the study. Guided by the methodology of application and analysis of the results proposed by the authors of the methodology, it was believed that the low level of situational and personal anxiety corresponds to the sum of the received points ≤ 30 points, for the average level - from 31 to 44 points, for the high level of anxiety - 45 and $>$ points.

To determine the type and degree (level) of hostility and aggressiveness among athletes of all age groups involved in boxing, with the determination of their index values, the Bass-Darki test questionnaire containing 75 statements was used. The task of the athletes, in this type of research, was to note one or another statement with which they agreed or did not agree. For the objectivity of evaluating the results of ongoing psychological research, they were carried out 7-10 days before the nearest boxing competitions in each age group of female athletes.

Also, in the study, the method of literary analysis and generalization of domestic and foreign sources of information, the method of extended interviewing of athletes, the method of statistical processing of the research results were applied.

The study was conducted in compliance with the basic bioethical provisions of the Council of Europe Convention on Human Rights and Biomedicine (04.04.1997), the Helsinki Declaration, the World Medical Association on the ethical principles of conducting scientific medical research with human participation (1964-2008), and Order of the Ministry of Health of Ukraine No. 690 of September 23, 2009.

The study was conducted in 2018-2019. In total, 127 ($n=127$) Ukrainian female athletes of different age groups involved in boxing from the Nikolaev, Kherson, Zaporizhzhya, Dnipropetrovsk, and Poltava regions took part in the study. Among them, female athletes of puberty ($n=43$), adolescence ($n=45$), the first reproductive age ($n=39$). The average age of athletes of puberty was 14 ± 0.67 years, of adolescence - 19.23 ± 0.74 years, of the first reproductive age - 23.41 ± 0.83 years. The experience of practicing this sport is from 2.5 to 10.5 years. Athletic experience of athletes - from III-I sports categories, to the candidate for master of sports and master of sports in boxing. The intensity of training is 4-6 times a week, from 2 to 3.5-4 hours, depending on sports experience and level of sports qualification.

Research results

After testing athletes participating in the experiment, to study the level of anxiety and aggressiveness, an analysis of the results was carried out and the number of athletes in each group was determined. The results are presented in Table 1.

Table 1. Indicators of aggressiveness index in the study group (n=127)

Indicator Name	Hostility index		
	Puberty Female athletes (n=43)	Youth female athletes (n=45)	Female athletes of the first reproductive age (n=39)
Low level	4 (9,30%)	19 (42,22%)	28 (71,79%)
Middle level	13 (30,23%)	14 (31,11%)	9 (23,08%)
Elevated level	16 (37,21%)	7 (15,56%)	2 (5,13%)
High level	8 (18,61%)	5 (11,11%)	–
Very high level	2 (4,65%)	–	–

Testing results showed that the values of the aggressiveness index vary in each age group of boxing female athletes. So, it was found that female athletes of puberty age (n=43) are dominated by high values of the aggressiveness index. In total, its values (increased + high + very high) levels of aggressiveness were determined in 36 (60.47%) female athletes. In the group of female athletes of youthful age (n=45), a low level of aggressiveness turned out to be quite represented - 42.22% of the female athletes in this group, with a complete absence of a very high level of aggressiveness. The total value of high + increased levels of aggressiveness was determined in 12 (26.67%), i.e., a little more than every fourth female athlete in this age group, which is more than 2 times less than that of female athletes of the puberty group age. In the group of female athletes of the first reproductive age, whose representatives have the highest athletic, competitive experience and age, it was found that they dominate female athletes, with a low level of aggressiveness - 71.79%, in the complete absence of female athletes with a high and very high level of index aggressiveness, and moderate indicators of medium and high levels of aggressiveness.

When determining the type and degree (level) of hostility among female athletes, in all age groups, using the Bass-Darki test questionnaire, the final results were obtained (the number of female athletes in each group, in % of their total number in this group), which are presented in Table 2.

Table 2. The index of hostility in the study group (n=127)

Indicator Name	Hostility index		
	Puberty female athletes (n=43)	Youth female athletes (n=45)	Female athletes of the first reproductive age (n=39)
Low level	5 (11,63%)	17 (37,78%)	32 (82,05%)
Middle level	13 (30,23%)	14 (31,11%)	7 (17,95%)
Elevated level	12 (27,91%)	11 (24,44%)	–
High level	9 (20,93%)	3 (6,67%)	–
Very high level	4 (9,30%)	–	–

When analyzing the results of individual testing, the obtained values of the hostility index, in the three studied groups of female athletes involved in boxing, it was found that they, with increasing age, sports and competitive experience, change the values of this psychological indicator. So, in particular, in the group of female athletes of puberty age (n=43), a high total number of female athletes was revealed, with high values of the hostility index - 25 (58.14%), i.e. a little more than every second female of this age groups, with a small number of female athletes with a low level of hostility. In turn, in the group of youth female athletes (n=45), it was determined that they have the number of female athletes with a low level of hostility, 3 times more than in the previous group, completely missing female athletes with a very high level of hostility. The total number of female athletes with an increased and high level of hostility was established in 14 (31.11%) female athletes, which is more than 2 times less in the group of female athletes of puberty age - in 21 (48.84%) female athletes. And finally, in the group of female athletes of the first reproductive age (n = 45), according to the results of testing and analysis of the results, it was found that there are no female athletes with an increased, high and very high level of hostility, with a very significant, dominant in this age group, low level of hostility index - 32 (82.05%). The obtained indicators in this age group, in our opinion, are due to such characteristics as age, experience, sports and competitive experience of female athletes.

After testing female athletes, to determine precompetitive reactive (situational) anxiety, using the "Self-assessment Scale of Anxiety Level according to Ch.D. Spielberger", in the modification of Yu.V. Hanin, with subsequent processing and analysis of the results, the data presented in Table 3.

Table 3. Personal anxiety indicators in the study group (n=127)

Indicator Name	Level of personal anxiety		
	Low level	Middle level	High level
Puberty Female athletes (n=43)	6 (13,95%)	9 (20,93%)	28 (65,11%)
Youth female athletes (n=45)	16 (35,56%)	19 (42,22%)	10 (22,22%)
Female athletes of the first reproductive age (n=39)	21 (53,85%)	15 (38,46%)	3 (7,69%)

An analysis of the results of a test questionnaire of personal anxiety levels among female athletes involved in boxing in all three age groups showed that in the group of female athletes of puberty (n=43), female athletes with an average (20.93%) and high (65.11%) levels of personal anxiety, defined in 37 (86.05%) of them. Girls of puberty age (n=45) have a high level of anxiety, 3 times fewer female athletes, a low level of personal anxiety - 1.5 times less and, with 2 times less number of female athletes, with an average level of personal anxiety. Female athletes of the group of the first reproductive age, as the oldest, more experienced, in their experience in boxing and having the greatest number of appearances in competitions at various levels, have the lowest number of female athletes, with a high level of personal anxiety, defined only in 3 (7.69%) female athletes of this age group. The group is dominated by female athletes, with a low level of personal anxiety - 21 (53.85%) and the average level defined in 15 (38.46%) female athletes of this age group. When processing and analyzing the obtained values of the level of situational anxiety in all three studied age groups, the data were obtained, which are presented in Table 4.

Table 4. Indicators of situational anxiety in the study group (n=127)

Indicator Name	Level of situational anxiety		
	Low level	Middle level	High level
Puberty Female athletes (n=43)	3 (6,98%)	11 (25,58%)	29 (67,44%)
Youth female athletes (n=45)	13 (28,89%)	17 (37,78%)	15 (33,33%)
Female athletes of the first reproductive age (n=39)	28 (71,79%)	9 (23,08%)	2 (5,13%)

When considering and analyzing the obtained indicators of the levels of situational anxiety, in all age groups, according to the results of their test questionnaire, it was found that in the group of female athletes of puberty, the highest indicator of the level of situational anxiety prevails, compared with the other two groups of female athletes - 29 (67.44%) girls. In turn, in the same group, the smallest number of female athletes has a low level of situational anxiety, identified only in 3 (6.98%) female athletes. In the group of female athletes of youthful age (n=45), 30 (66.67%) female athletes with a low level (28.89%) and an average level (37.78%) of situational anxiety, when determining 15 (33.33%) female athletes of the same group, a high level of situational anxiety. A different picture of the levels of situational anxiety was determined in female athletes of the first reproductive age (n=39).

Here female athletes dominate with a low level of situational anxiety - in 71.79%, and an average level - in 23.08% of female athletes, if only 2 (5.13%) have a high level of situational anxiety. The obtained results of situational anxiety, differing in each age group, with the most positive results in the group of older female athletes, can be explained, in our opinion, as with the assessment of all previous psychological indicators obtained in this study, with age, female athletic and competitive experience of athletes of this age group.

Discussion

To quantify the changes of the organism functional reserves during the successive phases of the human health Space-Time Continuum (STC) on the basis of postulates of reliability complex systems theory. The study is devoted to the problem of age-related human involution, which is evaluated not from the causal, but from the kinetic point of view.

Classical methods for the study of the human body to the morphology of the positions (anatomy, histology), physiology (normal and pathological), biochemistry, biophysics, genetics, clinical disciplines provide numerous, but fragmented material. The concept of human STC may contribute methodology a single integrated assessment of human health.

Visualization of human STC changes the concept of the kinetics of age-related changes in the organism and the role of determinants of health as a stable factor accompanying a uniform, smooth transition from the most pronounced functions of the body to their gradual extinction (Gozhenko, Biryukov, Gozhenko, & Zukow, 2018).

The results obtained, as a result of the study, on the determination of levels of aggressiveness, hostility, personal and situational anxiety, in different age groups of female athletes involved in boxing, coincide and correlate with the results of domestic and foreign experts studying this problem. If female athletes of younger age groups, with little sports and competitive experience, in the pre-start period, situational

and, to a lesser extent, personal anxiety dominates, due to fears of the likelihood of an unsuccessful performance, loss of battle to a stronger and more experienced opponent, fear of letting your team down accumulation of competitive experience and individual growth, sports and fighting skills, both of these indicators of anxiety, can decrease, both to an average and, in many cases, to a low level (*Miier et al., 2019*). These, more experienced female athletes, against the background of the work carried out during the inter-competition period by a sports psychologist and a coaching team in the diagnosis, correction and prevention of aggressiveness, hostility and anxiety, form a persistent paradigm for success in competitions at any level and with any opponent. We, like a number of other researchers (*Abadzhjan & Sannikov, 2011; Baranova, 2017; Bugajevs'kyj, 2017*); *Damadaeva, 2011; Lisicyn, 2014*), when conducting extensive interviews with both the female athletes themselves and their mentors, found that most of the female athletes, even having a high technical training, but not ready to speak psychologically, they are inferior to their rivals, less prepared, technically, rivals, whose psychological preparation and attitude towards the battle itself and victory in it was more significant.

Conclusions

1. The highest values of levels, both personal and reactive (situational) anxiety, were determined in all the studied groups, among athletes with little athletic experience and insufficient experience in participating in competitions of different levels - in the pubertal age group - in 28 (65.11%) and 29 (67.44%), respectively.
2. Female athletes of all three age groups, in whom a moderate type of personal and situational anxiety was identified, showed more stable results during the competition than experienced athletes, but with high rates of these types of anxiety.
3. When studying the question of the level of aggressiveness in women's boxing, in different age groups, it was found that the largest number of female athletes, with all levels of increased aggressiveness, were identified in the group of female athletes of puberty age (n=43), with the smallest sports and competitive experience - 26 (60.46%) female athletes.
4. In the group of female athletes of youthful age (n=45), in which a very high level of aggressiveness was not revealed, 12 (26.67%) female athletes with an increased and high level of aggressiveness were identified. In the group of female athletes of the first reproductive age, with the highest age qualifications and the level of sports and competitive experience, only 2 (5.13%) female athletes had an increased level of aggressiveness, in the complete absence of its high and very high levels.
5. It was determined that the highest level of hostility was present in the group of female athletes of puberty (n=43) - in 25 (58.14%), in the group of female athletes of adolescence (n=45), an increased and high level of anxiety was found in 14 (31.11%), and all types of high levels of anxiety, were completely absent in female athletes from the group of the first reproductive age.
6. Our studies do not contradict the opinion of leading domestic and foreign researchers about the urgent need for psychological support for female athletes of all age groups in women's boxing, for their psycho-correction, at all stages of the training and competitive process.

Conflict of interest

The authors have no conflict of interest.

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