

## ORIGINAL SCIENTIFIC PAPER

# Attitudes towards Doping in Adolescent Athletes

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## Abstract

This transversal study assessed the opinions of young athletes in martial arts regarding doping. The study involved 59 young adolescents performing judo and sambo at the Vologda region sport schools of the Russian Federation (average age=11.8±0.61 years old). The diagnostic was performed using a questionnaire. The respondents expressed their degree of agreement with 12 statements regarding the problem of doping and the use of illegal drugs in sports. Responses were assessed based on the 4-point Likert scale, and the sum of the points was interpreted in terms of the level of the value component of the anti-doping culture. This study showed that the respondents understand the importance of the doping problem for the modern international sports movement. However, a significant number of respondents tend to believe that without doping, sports competitions become less spectacular, and victory “at any cost” is still a victory. Our findings are of practical value for selecting content and methods for anti-doping education of young athletes before the beginning of their typical competitive experience.

**Keywords:** *anti-doping education, young athletes, martial arts, values, axiological approach*

## Introduction

As one of the priority issues on the world sports agenda, the problem of doping opens up prospects for research in the field of sports pedagogy (Donzé, 2014). One important part of the multi-component anti-doping strategy is education that should be performed throughout the athlete's sports career and begins as early as possible, preferably before the first competition (Dvorak et al., 2014). Meanwhile, it is known that young athletes participating in international competitions are not often purposefully taught Olympic values, such as fair play and the need to oppose doping (Derwent & Çotuk, 2013).

An expert assessment of a number of anti-doping educational programs has made it possible to establish their positive effects on athlete awareness but also showed their low effectiveness in terms of changing doping behavior, with the exception of certain facts of a limited effect in deterring teenagers from using anabolic steroids. The researchers emphasized that positive trends in athletic awareness do not necessarily lead to an actual decrease in the use of doping (Wippert & Fließner, 2016). Hence, informing athletes about prohibited substances and methods, anti-doping rules, doping consequences, doping control procedures, and the rights and obligations of athletes

is not sufficient to prevent doping. Therefore, the goal of anti-doping educational programs should be to create an attitude of intolerance for doping at the value-motivational level (Gretsov & Vorobiev, 2018).

Experts have considered the use of anti-doping educational programs for sports school students as the most promising area of pedagogical work. Sports motivation is a psychological variable that should be considered in anti-doping policies, programs, and interventions aimed at the adolescent population because motivation is linked to doping-related attitudinal variables and partially mediates the effect of achievement goal orientations in this regard (Mudrak, Slepicka, & Slepickova, 2018).

Consequently, this research stems from the contradiction between the growing demand for high-quality anti-doping educational programs and the lack of evidence-based information about adolescent athletes' attitudes towards doping.

## Theoretical Framework

In the context of the problem of anti-doping education of young athletes, in this study, we focused on culturological, axiological, and activity approaches as priority methodological research principles. In addition to the significant theoretical pre-



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requisites for the development and implementation of anti-doping educational programs for young athletes, we include the theory of Olympic education and the concept of drug prevention via physical education and sports (Varfolomeeva & Kozyreva, 2018).

Based on the definition of “education”, the goal of anti-doping education of young athletes is associated with the formation of an anti-doping culture of an individual, which, in turn, assumes zero tolerance to doping and is viewed as a part of the sports and humanistic culture. It is known that sports and humanistic culture is characterized by positive attitudes of individuals towards sports in terms of such ideals and values of humanism as an integral development of personality and humane social relations (Stolyarov & Barinov, 2009). Several longitudinal studies have revealed an inversely proportional relationship between sports ethical values and the duration of classes, i.e., with an increase in sports experience, respect for the opponent and the principles of a fair fight generally become less important (Shukis et al., 2005). Consequently, the researcher’s attention should be focused on the questions of what place doping has in the context of the educational and socializing functions of sports, and, accordingly, how to prevent its negative impact and how to avoid its effects on the lives of young athletes (Shelkov et al., 2014).

Considering the abovementioned information in the framework of this scientific study, the main method used in this research was an axiological approach that allows anti-doping educational programs to focus on prevention and building them based on values.

It has been recognized that adolescence is the age period most perceptible to anti-doping education (Donzé, 2014). Scientific publications also highlight that the psychological roots of this problem can be found in the motivational sphere of athletes and their life values, and adolescence and young adulthood provide considerable potential for building a system of personal values and motivations (Gretsov & Vorobiev, 2018). In addition to the value-bearing potential of the sport itself as a competitive activity, we must underscore the health values in anti-doping education, especially because it is at the beginning of the sport career that doping constitutes the highest health risks for athletes (Henning, 2017).

According to Mudrak et al. (2018), adolescent athletes may be considered particularly vulnerable to the abuse of performance-enhancing drugs (PEDs). A large-scale international meta-analytic study observed that approximately 3–6.5% of boys and 1–2% of girls reported current or past use of anabolic steroids. Other national surveys have found that, depending on the methodology used, 2.1–11% of adolescents reported past or current use of PEDs (Mudrak, et al., 2018).

Perhaps in certain cases, appeals to the said values will be more effective compared to appeals to ethical norms and values (Henning, 2017). Moreover, adolescent awareness of the health value largely depends on the rhythm of their life and on the system of requirements that they make to themselves (Tsvetkova, 2005).

Considering some similarities in the psychological mechanisms underlying drug use and doping, the existing conceptual models for the prevention of children and adolescent drug addiction in physical culture and sports are to some extent applicable in the field of countering doping among young athletes. In this case, physical education and sports are involved at three levels: as an alternative to “bad habits”, as a tool for healthy lifestyle values, and as a method of upbringing and correction of personal qualities (Shelkov & Badrak, 2010).

A survey of adult athletes conducted in Slovenia revealed that often they do not completely trust coaches and doctors on doping issues: they are not convinced of the expert knowledge of their trainers/doctors regarding the problem of doping and/or they do not believe in their good intentions (Kondric et al., 2011). Meanwhile, teenage athletes tend to trust their mentors and are ready to imitate the behavior of their teachers, and this must be taken into account when selecting the content and methods of anti-doping education (Badrak, 2011). According to Nicholls et al. (2020), psychological variables, such as attitudes and susceptibility, also predict doping, as do the people that surround athletes, such as coaches, peers, and parents.

In recent years, scientists have focused on the importance of maintaining anti-doping efforts and the role of socio-cognitive variables in doping attitudes (Mudrak et al., 2018; Filleul et al., 2022). Some studies have been devoted to the attitudes toward doping in young athletes (15-year-olds and older) (Wang et al., 2020; Miskulin et al., 2021). However, similar data regarding younger adolescents are not available in the literature. The aim of this study was to assess attitudes toward doping among adolescent athletes that play individual sports.

## Methods

This empirical research was aimed at assessing the opinions of young athletes in martial arts about doping. The survey was conducted remotely due to the COVID-19 prevention measures.

The study was performed using a survey, registration, scaling, and correlation analysis methods. The respondents had to agree or disagree with 12 statements regarding the problem of doping and the use of illegal drugs in sports. The statements were “direct” and “reverse”, and the respondents expressed their agreement by choosing one of several options. Responses were assessed based on the 4-point Likert scale (for “direct” statements): 4 points – “definitely yes”, 3 points – “yes rather than no”, 2 points – “no rather than yes”, and 1 point – “definitely no” (for “inverse” statements – vice versa).

## Research Design

This study was part of the initiative research project “Formation of younger adolescents’ anti-doping culture in the educational space of a sports school”. Data were collected in May 2020 through an Internet survey using Google Forms. In total, five sport schools in the Vologda region of the Russian Federation participated in this study. The questionnaires were administered by the research team members. Prior to data collection, the adolescent athletes’ coaches and parents were informed of the study. The data collection was voluntary and anonymous. Informed voluntary consent was obtained from the parents of each of the participants included in this study. The study met the standards of the Declaration of Helsinki.

## Participants

The study involved 59 younger adolescent [52 (88.1%) boys and 7 (11.9%) girls aged 11–13 (with an average age of 11.8±0.61 years)], who perform judo (59.3%) and sambo (40.7%) at the Vologda region sport schools of the Russian Federation.

## Data Collection Instruments

The diagnostic means were determined by a questionnaire compiled by the authors based on the materials of Badrak (2011), Mudrak, Slepicka, & Slepickova (2018), and Wang, Xu, & Zhang (2020).

*Data Analysis*

Statclass 1.4 based on IBM SPSS Statistics (©Predictive Solutions, Moscow, 2016) was used for data processing. Correlation analysis was performed through a Spearman

correlation calculation.

**Results**

The opinions of the young athletes are shown in Table 1.

**Table 1.** The opinions of young athletes in martial arts about doping, in %.

Statement	Opinion, in %			
	Definitely yes	Yes rather than no	No rather than yes	Definitely no
Doping is a big problem for the modern international sports movement.	81.4	13.6	5.0	0
The development of international sports contacts does not depend on doping scandals.	6.8	6.8	15.3	71.2
High sports results can be achieved without the use of doping.	84.7	8.5	3.4	3.4
Without doping, sports competitions become less spectacular.	8.5	3.4	16.9	71.2
The use of doping contradicts the principles of "fair play".	89.8	6.8	1.7	1.7
To achieve victory, the use of doping is sometimes permissible.	5.1	18.6	15.3	61.0
"Victory is three times sweeter when obtained in an honest struggle".	79.7	13.6	3.4	3.3
Victory "at any cost" is also a victory.	15.3	13.6	37.3	33.9
Doping is harmful to an athlete's health.	76.3	16.9	5.1	1.7
Martial arts athletes can use prohibited diuretics for weight loss.	5.1	11.9	22.0	61.0
An athlete himself should decide whether to take a prohibited drug or not.	59.3	20.3	6.8	13.6
If a coach or a team doctor allows the use of illegal drugs, then an athlete should follow his advice.	8.5	10.2	27.1	54.2

Table 1 shows that the respondents understand the importance of the doping problem for the modern international sports movement. The statement that high sports results can be achieved without the use of doping is also prevalent among

young athletes, as well as the fact that the use of doping contradicts the principles of "fair play" and the fact that "three times sweet victory when obtained in an honest fight". However, some respondents tend to believe that without doping, sports

**Table 2.** Correlations between young athletes' statements about doping.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
2.	.104	--									
3.	-.026	0.338	--								
4.	.215	-.096	-.065	--							
5.	.487**	.065	.132	.456**	--						
6.	.118	.201	.154	.085	.039	--					
7.	.079	.075	.087	.085	.249	.072	--				
8.	.048	-.156	-.227	.217	.034	.413*	-.137	--			
9.	.368*	.005	.045	.163	.512**	.334*	.045	.203	--		
10.	.017	.219	.276	.133	.280	.519**	.166	.025	.160	--	
11.	.226	-.034	-.028	.007	.101	.020	-.010	-.145	.143	.057	--
12.	-.007	.165	.051	.212	.395*	.576**	.054	.319	.442**	.418**	-.001

Legend: 1 – "Doping is a big problem for the modern international sports movement"; 2 – "The development of international sports contacts does not depend on doping scandals"; 3 – "High sports results can be achieved without the use of doping"; 4 – "Without doping, sports competitions become less spectacular"; 5 – "The use of doping contradicts the principles of "fair play"; 6 – "To achieve victory, the use of doping is sometimes permissible"; 7 – "Three times sweet victory, obtained in honest struggle"; 8 – "Victory "at any cost" is also a victory"; 9 – "Doping is harmful to athletes' health"; 10 – "Martial arts athletes can use prohibited diuretics for weight loss"; 11 – "An athlete himself should decide whether to take a prohibited drug or not"; 12 – "If a coach or a team doctor allows the use of illegal drugs, then an athlete should follow his advice"; \*\* – correlation significant at  $p < 0.001$ ; \* – correlation significant at  $p < 0.01$ .

competitions become less spectacular, and victory “at any cost” is still a victory.

Although most respondents are confident that doping is harmful to athletes' health, some young athletes believe that martial arts athletes can use prohibited diuretic drugs for weight loss without harm to health. They also believe that if a coach or a team doctor considers the use of illegal drugs possible, then an athlete should agree. In addition, some young athletes are not sure that an athlete himself must decide whether to take the prohibited drug or not.

Correlation results are presented in Table 2.

The correlation analysis results are useful both for assessing adolescent opinions and for assessing the quality of diagnostic tools.

## Discussion

This study revealed an ambiguous attitude of adolescent athletes towards doping and, in general, to Olympic values. For example, while agreeing that the use of doping contradicts the principles of “fair play”, some teens believe that to achieve victory, the use of doping is sometimes permissible. Recognizing the idea of “victory is three times sweeter when obtained in an honest struggle” young athletes believe that victory “at any cost” is still a victory. Despite the recognition of the negative impact of doping scandals on the development of international sports contacts, the respondents agreed with the statement that without doping, sports competitions become less spectacular. Such results indicate a certain discrepancy between the real and declarative values of adolescents and the inconsistency in their opinions regarding doping in sports.

According to the results of this study, athletes who are beginners in sports are not fully aware that an athlete himself should decide whether to take or not to take a prohibited drug, believing that if a coach or a team doctor allows

the use of illegal drugs, then an athlete should follow his advice. Thus, a gap is revealed in adolescent understanding of their responsibilities for anti-doping rule violations. In this regard, it is logical to envisage the development of the skills of reflection and self-regulation, as well as the ability to withstand the negative influence of the social environment in the formation of the foundations of an anti-doping culture.

Despite understanding the harm of doping to the health of an athlete, young judokas and sambists believe that martial arts athletes can use banned diuretics to lose weight. This likely indicates the careless attitude of respondents towards their health. Therefore, in the anti-doping education program, special attention should be paid to the health values and other life values that are incompatible with the use of illegal drugs.

The results of this study are comparable with data of other researchers in the field. For example, Badrak (2011) found that young athletes believe that it is impossible to achieve high sports results without the use of prohibited means. According to Miskulin et al. (2021), athletes who were engaged in sports for 1 to 5 years had more permissive attitudes toward PEDs ( $p < 0.001$ ), and current PED usage was more frequent among athletes playing individual sports ( $p = 0.001$ ). Henning (2017) recommends focusing on the value of health in the process of anti-doping education. Thus, the solution to the problem of preventing doping among young athletes provides for the correction of the value and motivation sphere of personality (Shelkov & Badrak, 2010).

Such conclusions are consistent with the results of the correlation analysis, which confirmed the diagnostic value of the compiled questionnaire. In general, based on the results of our study, we show a high level of the value component in the anti-doping culture of the adolescent athletes surveyed.

The pie chart shows the distribution of respondents regarding the levels of the anti-doping culture's value compo-

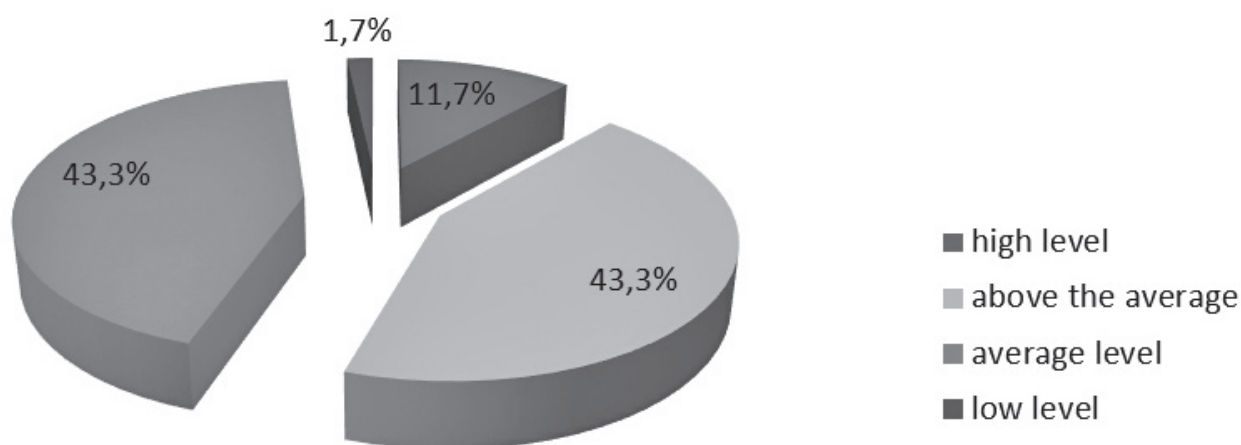


FIGURE 1. Distribution of the respondents regarding the levels of the anti-doping culture's value component, %

nent in percentage (Figure 1).

As show, the level of anti-doping culture's value component is high and above average for more than half of the respondents. Although a very small number of the respondents show a low level of anti-doping culture's value component, more than 1/3 of athletes had an average level of the anti-doping culture's value component. Therefore, the findings of this research are of practical value for adequate selection of content and methods of anti-doping education

of young athletes before the beginning of their typical competitive experience.

There is a need to implement an anti-doping educational program in the process of sports training of young athletes, which includes the following pedagogical conditions: special study of Olympic values, formation of responsibility, habits to make decisions independently and predict their possible consequences, and increasing health value. Experimental verification of these conditions will be the next stage of our

research.

Our study has some limitations related to the distant form of the survey that should be considered. In our opinion, the choice of the adolescents' answers may be influenced by their

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#### Conflict of Interest

The authors declare that there is no conflict of interest.

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