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## Adaptive and maladaptive perfectionism and athletes' attitudes toward doping and anti-doping policy in sport

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# Adaptive and maladaptive perfectionism and athletes' attitudes toward doping and anti-doping policy in sport

## Authors' Contribution:

- A Study Design
- B Data Collection
- C Statistical Analysis
- D Data Interpretation
- E Manuscript Preparation
- F Literature Search
- G Funds Collection

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## abstract

**Background** The article explores two issues – perfectionism and attitudes toward doping in sport. The study was aimed at verifying the thesis that perfectionism in its adaptive and maladaptive forms may have an effect on athletes' attitudes toward doping.

**Material/Methods** The study sample consisted of 110 athletes (43 females and 67 males). To test perfectionism the Adaptive and Maladaptive Perfectionism Questionnaire developed by Szczucka was used and to measure attitudes toward doping-free sport and anti-doping policies a questionnaire worked out by one of the authors. The effect of perfectionism on doping attitudes was measured.

**Results** There were significant differences in attitudes toward controls and sanctions between men and women with men showing a more positive attitude. All regression models were significant, explaining from 7% to 12% of variance in the attitudes. In all cases adaptive perfectionism was a positive predictor of attitudes to doping. On the contrary, maladaptive perfectionism was negatively correlated with attitudes; only in the case of attitude toward controls the relationship was significant.

**Conclusions** With the rise of adaptive perfectionism, i.e. the tendency to set oneself high personal standards and strive for superb athletic performance, the probability of positive attitudes toward anti-doping policy also rises.

**Key words** doping, attitude, perfectionism

## article details

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## INTRODUCTION

Despite hundreds of years of tradition of attributing great social and educational values to sport there are many phenomena which seem to defy it. Aggressive behaviours on and off the field, corruption, reification of athletes are only but a few examples. One of such anti-ethical phenomena is taking banned performance enhancing substances and other forms of cheating known as doping, which is considered as “fundamentally contrary to the spirit of sport” [1]. However, to do justice to reality it has to be admitted that there are also athletes and sport-scientists arguing for legalization of doping practices [2, 3, 4]. Despite such voices, since the first “official” condemnation of doping in IAAF Rules in 1928 [5], the fight against doping has continued on several fields - legislative (UNESCO Anti-Doping Convention, World Anti-Doping Code), improving detection techniques (modern apparatus, sophisticated and tight procedures, like biological passport) and anti-doping education. The last to be successful should be based on understanding personal and psychosocial factors lying at the base of athletes’ attitudes to act in a sportpersonlike or unsportpersonlike manners. However, providing explicit answer which factors (and to what extent) can predict attitudes and/or behaviours related to doping remains a challenging task. The number of studies dealing with this problem is still rather limited. Such factors as motivational orientation and motivational climate, sport motivation and moral disengagement [6, 7, 8] have been identified as possible predictors of such attitudes.

Another variable that could predict attitudes to doping is perfectionism, defined as “striving for flawlessness and setting of excessively high standards for performance accompanied by tendencies for overly critical evaluations of their [i.e. athletes] behaviour” [9]. This trait is usually viewed as potentially causing athletes to adopt unattainable standards of performance, distorted interpretations of events far from “perfect”, maladaptive affective responses (like excessive anxiety about mistakes), burnout of athletes etc. [9, 10]. However, some scholars have claimed that perfectionism is not one-dimensional but multifaceted and not all of its manifestations are negative and maladaptive [9, 11, 12]. Therefore, at least two forms of perfectionism have been identified, adaptive and maladaptive or healthy and unhealthy. The adaptive dimension of perfectionism relates to high personal standards and striving for excellence in sport, in contrast to maladaptive perfectionism which relates to such reactions as concern over mistakes, uncertainty about actions to be taken, disappointment with the discrepancy between expectations and results, and negative reactions to mistakes [13, 14]. High expectations of oneself and striving for perfection may predispose athletes to adopt a consenting attitude to the use of illegal performance-enhancing drugs and methods. To date only two studies have attempted to assess the relationship between perfectionism and attitudes to illegal performance-enhancing measures [7, 15]. However, only one, which was published while the final version of present manuscript was being prepared, used multidimensional operationalization of perfectionism. Therefore, the purpose of this study was to determine if there is any correlation between attitudes toward doping in sport and perfectionism in its adaptive and maladaptive dimensions.

## MATERIALS AND METHODS

### PARTICIPANTS

A convenience sample involved 110 athletes (43 females and 67 males), aged 13-31 ( $M = 21.13$ ,  $SD = 3.73$ ), practicing in a training camp in Central Sports Centre in Spala in December 2014. Although the sample was not randomly selected, it met the criterion of non-tendentious selection. The greatest number of them were athletes ( $n = 69$ ; 62.7%), followed by swimmers ( $n = 19$ ; 17.3%), wrestlers ( $n = 16$ ; 14.5%) and volleyball players ( $n = 6$ ; 5.5%). Participants voluntarily and anonymously filled in a questionnaire consisting of two measures: Attitudes toward doping-free sport and anti-doping policy developed by one of the authors and used in previous studies [6] and the Adaptive and Maladaptive Perfectionism Questionnaire [16]. The first measure consisted of four sub-scales measuring four elementary attitudes: toward anti-doping controls ("controls"), toward sanctions for violating anti-doping rules ("sanctions"), toward ethical rationale of anti-doping policy ("ethics") and toward the possibility to be successful without illegal performance enhancing drugs ("no-doping"). All items were scored on a 5-point Likert scale. The second measure consisted of two sub-scales - adaptive perfectionism and maladaptive perfectionism with items scored on a 7-point Likert scale.

### METHOD

The reliability of both measures was determined by estimating the internal consistency with Cronbach's Coefficient Alpha. Nearly all subscales reached alpha higher than 0.60 which according to Sokołowski and Sagan [17] represents the threshold value of acceptable reliability. Only one subscale - attitude toward anti-doping controls reached the alpha value of 0.57, which is slightly below the desired value. The skewness of all variables ranged from 0.02 (maladaptive perfectionism) to -1.20 (no-doping) and kurtosis from 0.03 (maladaptive perfectionism) to 1.37 (attitudes toward doping controls) and therefore their distributions could be regarded as close to normal. Because all variances were also homogenous in statistical analyses parametric tests were used. Additionally, statistical significance tests were supplemented by effect size measure, Cohen's  $d$ , reflecting the strength of the relationships. All calculations were performed using the Statistica 10 (Statsoft).

## RESULTS

Generally, athletes declared positive attitudes toward counteracting doping in sport, although the strength of elementary attitudes was diversified. The strongest was the attitude toward the ethical rationale behind the anti-doping policy while the weakest was the attitude toward anti-doping controls. The two remaining elementary attitudes were placed between these extremities. The difference between them - as the only ones - was insignificant. Females declared significantly stronger attitude toward being successful in sport without taking drugs with moderate-to-strong size of the difference (Cohen's  $d = 0.63$ ). In attitudes toward controls and sanctions only a tendency toward significance was observed, with slightly more positive attitudes in males. The strength of the relationship was weak-to-moderate. With reference to perfectionism in both sexes the adaptive dimension prevailed. Descriptive statistics with significance and effect size are presented in table 1.

Table 1. Descriptive statistics (means and standard deviations) and differences (t-test) in variables according to sex followed by effect size measure (Cohen's d)

	Total		Females		Males		t	df	p	d
	M	SD	M	SD	M	SD				
Attitudes										
controls	3.98	0.65	3.84	0.69	4.07	0.61	-1.83	108	0.069	-0.36
sanctions	4.27 <sup>a</sup>	0.72	4.10	0.79	4.37	0.65	-1.94	108	0.055	-0.40
ethics	4.45	0.60	4.51	0.59	4.41	0.61	0.89	108	0.376	0.17
sport	4.22 <sup>a</sup>	0.97	4.77	0.78	3.99	1.02	3.17	108	0.002	0.63
Perfectionism										
maladaptive	3.24	0.83	3.28	0.80	3.21	0.86	0.45	108	0.657	0.08
adaptive	5.45	0.86	5.32	0.85	5.53	0.87	-1.25	108	0.215	-0.25

Means with the same superscript were not different.

All regression models were significant, explaining from 7% (“no-doping”) to 12% (“controls”) variance in dependent variable. Adaptive perfectionism proved to be an important predictor for all the four elementary attitudes toward doping and anti-doping policy, being positively related to each of them. The relationship between attitudes toward doping and maladaptive perfectionism was negative, but only in the case of attitudes toward controls the influence was significant.

Table 2. Multiple regression analysis assessing the influence of maladaptive and adaptive perfectionism on attitudes toward doping in sport

	Attitudes controls			Attitudes sanctions			Attitudes ethics			Attitudes sport		
	$\beta$	$t_{(107)}$	p	$\beta$	$t_{(107)}$	p	$\beta$	$t_{(107)}$	p	$\beta$	$t_{(107)}$	p
$R = 0.35, R^2 = 0.12, F_{(2,107)} = 7.43, p < 0.001$ $R = 0.33, R^2 = 0.11, F_{(2,107)} = 6.60, p = 0.002$ $R = 0.32, R^2 = 0.10, F_{(2,107)} = 6.14, p = 0.003$ $R = 0.27, R^2 = 0.07, F_{(2,107)} = 4.17, p = 0.018$												
Adaptive perf	0.27	2.96	0.004	0.33	3.57	< 0.001	0.28	3.03	0.003	0.23	2.43	0.012
Maladapt perf	-0.19	-2.09	0.039	-0.02	-0.25	0.802	-0.13	-1.37	0.173	-0.12	-1.25	0.213

Table 3. Correlation matrix for the study variables

	1	2	3	4	5	6
1 Attitudes controls						
2 Attitudes sanctions	0.46*					
3 Attitudes ethics	0.52*	0.61*				
4 Attitudes sport	0.22*	0.09	0.33*			
5 Maladaptive perf	-0.22*	-0.06	-0.16	-0.15		
6 Adaptive perf	0.29*	0.33*	0.30*	0.24*	-0.12	

\*correlation significant at  $p < 0.05$

## DISCUSSION

Perfectionism is defined as a personality disposition characterized by an incapacity for accepting the performance level other than superb [9] and as such may result in different reactions, both adaptive and maladaptive. Research on correlates of perfectionism in sport suggests that it can be related to indicators of burnout in athletes [18, 19] and coaches [20], competitive anxiety [21], self-esteem [22], or eating disorders [23]. The nature of these relationships is dependent on the dimension of perfectionism we are presented with. Thus, if perfectionism takes the form described as maladaptive or “unhealthy”, there is a higher risk of such phenomena as burnout, disordered eating, fear of negative evaluation by others, or a sense that one’s performance is lower than one’s expectations [18-23]. In contrast, the so called adaptive perfectionism is associated with striving for high standards of performance and positive reactions.

To date, according to our knowledge, two studies have raised a similar problem [7, 15]. Zucchetti et al. [7] studied psycho-social correlates of attitudes toward doping among Iranian athletes. From the set of psychological correlates, extrinsic motivation and perfectionism were significant predictors of such attitudes. The authors of the abovementioned study concluded that athletes with an extremely high level of perfectionism are more prone to accepting doping in sport. In another study, Madigan et al. [15] examined the relationships between attitudes towards doping and perfectionism in sport that, in contrast to the abovementioned study, was operationalized as a multidimensional construct. The four aspects of perfectionism were: perfectionistic strivings, perfectionistic concerns, parental pressure to be perfect, and coach pressure to be perfect. Two of them were significant predictors of the attitude toward doping – parental pressure to be perfect was positively correlated, and perfectionistic strivings was negatively correlated with it. However, as it is emphasized by the authors, the negative relationship between perfectionistic strivings and positive attitudes towards doping emerged only with controlling other dimensions of perfectionism. Additionally, path analysis showed perfectionistic strivings to be influenced by coach pressure.

Differences in methodology between this study and the abovementioned studies (perfectionism assessed as uni- vs multi-dimensional; attitude toward doping operationalized as the evaluation of using doping substances and methods vs. operationalized as the evaluation of actions aimed as counteracting doping in sport etc.) made it hard to directly compare the obtained results. Based on our findings, it can be concluded that perfectionism not necessarily makes athletes more permissive to doping. Rather, the strength of perfectionistic tendencies and the degree to which person’s neurotically strives for fancy perfectionism and/or simply strives for being excellent as he/she can concern biomotor and psychological potential and external conditions. Even considering that the variance explained in attitudes toward doping and/or anti-doping attitudes was small, this study expands our knowledge of psychological correlates of attitudes to the phenomenon of doping in sport.

Although findings presented in this paper may have some value for anti-doping efforts, they should be interpreted with caution resulting from the limitations of the study. Firstly, this study was based on the athletes’ self-reports, which have the well-known limitation in the form of proneness to give socially desirable

answers. Secondly, the study was cross-sectional and as such does not allow drawing conclusions about causality of the observed relations. Thirdly, the reliability of some subscales calls for vigilance while interpreting the results. Finally, a convenience sample might impair the potential for the generalization of the results.

## CONCLUSIONS

The main purpose of the study was to reveal potential relationships between adaptive and maladaptive perfectionism and attitudes toward doping and anti-doping policies. The results show that athletes generally display favourable attitudes toward counteracting doping in sport, although attitudes toward doping controls are the least positive – probably due to the fact that doping control procedures violate athlete’s privacy and as such are unpleasant. In most elementary attitudes differences between male and female athletes were insignificant. Only in the case of the attitude toward being successful in sport without using drugs, females displayed a significantly more positive attitude than males and the strength of this difference was moderate ( $ES = 0.63$ ).

Relationships between attitudes to doping and anti-doping policy and both dimensions of perfectionism turned out to be in accordance with suppositions, although they were weaker than it could be expected, especially in the case of maladaptive perfectionism. Although all four regression models were statistically significant, they explained less than ten percent of variance in dependent variables – the most in the case of attitude to doping controls (12%). In all cases adaptive perfectionism proved to be a significant (and positive) predictor of attitudes. Based on this finding it can be concluded that with the rise of the tendency to set oneself high personal standards and strive for superb athletic performance, the probability of positive attitudes toward anti-doping policy also rises. Only maladaptive perfectionism, defined by Szczucka [16] as a tendency to posing oneself unreasonable and unrealistic goals, focusing one’s attention on mistakes, perceiving them as a defeat, may make athletes more prone to critically assess the institution of anti-doping controls.

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