

The relationship between athletes' belief in nutritional supplements and disengagement of sports ethics with doping

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Abstract: *Study Objective:* The aim of this study was to examine the relationship between the belief of athletes in nutritional supplements and the disengagement from sports ethics with doping. *Methods:* A total of 627 athletes with mean age of 22.76 ± 5.30 years, mean of 9.51 ± 5.64 sports years, 307 of whom were women, and 320 of whom were men, participated in the study. The research used the scale of belief in nutritional supplements and the disengagement from sports ethics with doping scale. The Mann Whitney U and Kruskal Wallis tests were used to analyze data from non-parametric tests. *Results:* The results had shown that athletes were moderate agreed with the belief in sports nutritional supplements, while they didn't agree with the disengagement from sports ethics with doping. According to the correlation analysis, there was a positive low level of significant correlation between the total score for the sports nutritional supplements belief scale and the total score for the disengagement from sports ethics with doping. A significant difference was found in the total score of sports supplements based on gender, nationality, and age variables, and in the total score of the disengagement from sports ethics with doping according to national and branch variables. *Conclusion:* As a result, increased belief in nutritional supplementation in sport appears to have led athletes to disengage from sport ethics with doping.

Keywords: Doping, Nutritional Supplements, Sports Ethics

Introduction

Adequate calorie and nutrient intake is an important factor for achieving and maintaining high-level performance in sports. In situations where nutrition is not sufficient, athletes often turn to nutritional supplements or use doping agents to achieve competitive advantage.

Nutritional supplements can be defined as non-doping substances used to increase energy production and consumption, delay fatigue, and improve performance (1). In other words, a nutritional supplement is called the use of some substances, methods, and materials other than natural ability and training to improve sporting performance (2). Athletes can gain

an advantage by increasing their current performance through nutritional supplements (3). In contrast with the sport's goals and objectives, high transfer fees, combined with the athlete's desire to leave a trace, achieve recognition, win medals in competitions and earn prizes, result in pulling athletes away from being ethically virtuous, and the use of doping, which is a societal problem (4). Increasing unconscious drug use and doping levels in many of our country's sports is drawing attention (5). Doping is one of the issues that require resolution in sports. That as doping use becomes commonplace, it is thought to compromise fair play, athlete health, and the spirit of the sport (6). The reasons for athletes' propensity for doping are assumed to be linked to their desire to maximize performance,

desire to win, and adequate financial support, according to Yalçın et al. (2019) research results (7). The use of doping in sport is a kind of trick that is considered to be unethical, illegal, and harmful to health (8). In other words, athletes' use of prohibited drugs violates the sport's ethics and can put the athletes' health at risk (9). The human ego's desire to be privileged, to stand out, to succeed, to earn a lot of money can cause it to ignore both ethical values and legal regulations (10).

When an adequate and balanced diet is not properly performed in sports, the energy balance can't be used correctly and the athlete can't achieve his / her goal or perform the expected performance of the athlete. Although most athletes try to add nutritional supplements to fulfill this nutritional deficiency, some athletes may employ a doping agent to perform at a high level. In other words, unethical behavior is considered an unfair advantage and is claimed to be contrary to the sport's nature. In this context, the aim of this study was to examine the relationship between the belief of athletes in nutritional supplements and their disengagement from sports ethics with doping, and to determine whether they differ by gender, age, sports year, and nationality.

Material and Methods

Participants

A total of 627 athletes with an mean age of 22.76 ± 5.30 years, an mean of 9.51 ± 5.64 sports years, 307 of whom were women and 320 of whom were men, 333 (53.1%) were national athletes, 346 (55.2%) were in individual sports and 281 (44.8%) were in team sports participated in the study. 286 of these athletes stated that they used nutritional supplements, while 341 stated that they did not. In addition, 8 of the 627 athletes stated using doping substances.

Data Collection

The sports nutritional supplements belief scale and the disengagement from sports ethics with doping scale are used for data collection in the research.

The sports nutritional supplements belief scale, developed by Hurst et al. (2017) and adapted to Turkish by Karafil, Ula and Atay (2019), consists of six questions and one dimension. This is a 6-likert-type

scale. The scale items are rated as (1) strongly disagree, (6) strongly agree. The content of the scale is intended to test the athlete's belief in nutritional supplements based on training and competition. The lowest score that can be scored from the scale is 6 and the highest score that can be scored is 36. With the highest score that can be taken from the scale, it can be concluded that people may be more likely to use doping and similar prohibited nutritional supplements (3).

The disengagement from sports ethics with doping scale developed by Kavussanu et al. (2016) to measure the mechanisms of demoralization in the use of performance-enhancing prohibited substances has been adapted to Turkish by Gürpınar, Nalbant and Kavussanu (2019). The scale is rated between strongly disagree (1) and strongly agree (7). The disengagement from sports ethics with doping scale consists of six questions and one dimension (11).

Statistical analysis

The Kolmogorov-Smirnov test was examined to determine whether the data analyzed using SPSS showed normal distribution and the data were not normally distributed ($p < 0.05$). The Mann Whitney U and Kruskal Wallis tests were used for comparing of continuous data between two independent groups and comparing of continuous data between independent groups which are more than two, respectively.

Results

When Table 1 was examined, it was observed that the athletes participated moderate in the sports nutritional supplements belief (3.85 ± 1.26), while they did not participate in the disengagement from sports ethics with doping (2.28 ± 1.23).

Table 1. Analysis of mean scores of the sports nutritional supplements belief scale with the disengagement from sports ethics with doping scale

Scales	N	Mean± Std. Dev.
The sports nutritional supplements belief scale	627	3,85±1,26
The disengagement from sports ethics with doping scale	627	2,28±1,23

According to Table 2, there was a positive low level of statistically significant correlation between the total score of the sports nutritional supplements belief scale and the total score of the disengagement from sports ethics with doping scale ($p < 0,05$; $r = 0,267$).

In Table 3, a statistically significant difference was observed in the total score of the sports nutritional supplements belief scale ($p < 0,05$), while no signifi-

cant difference was observed in the total score of the disengagement from sports ethics with doping scale ($p > 0,05$).

When Table 4 was examined, there was a statistically significant difference between the total score of the sports nutritional supplements belief scale and the total score of the disengagement from sports ethics with doping scale ($p < 0,05$).

In Table 5, there was no statistically significant difference in the total score of the sports nutritional supplements belief scale according to the branches of the athletes ($p > 0,05$), while the total score of the disengagement from sports ethics with doping scale was significantly different ($p < 0,05$).

In Table 6, a statistically significant difference was found in the total score of the sports nutritional supplements belief scale according to age ($p < 0,05$), while the total score of the disengagement from sports ethics with doping scale did not differ significantly ($p > 0,05$).

When Table 7 was examined, there was no statistically significant difference in total scores of sports

Table 2. Correlation test results of the sports nutritional supplements belief scale and the disengagement from sports ethics with doping scale

Scales		The sports nutritional supplements belief scale	The disengagement from sports ethics with doping scale
The sports nutritional supplements belief scale	r	1,000	,267 ^{**}
	p	.	,000
	N	627	627
The disengagement from sports ethics with doping scale	r	,267 ^{**}	1,000
	p	,000	.
	N	627	627

Table 3. Mann Whitney-U test analysis results of the sports nutritional supplements belief scale with the disengagement from sports ethics with doping scale by gender

Scales	Gender	n	Median (Q ₁ -Q ₃)	p
The sports nutritional supplements belief scale	Women	307	3,83 (2,67-4,67)	,000
	Men	320	4,33 (3,17-5,00)	
The disengagement from sports ethics with doping scale	Women	307	2,00 (1,17-3,00)	,122
	Men	320	2,00 (1,33-3,00)	

Table 4. Mann Whitney-U test analysis results of the sports nutritional supplements belief scale and the disengagement from sports ethics with doping scale according to the status of being a national athlete

Scales	Status of being a national athlete	n	Median (Q ₁ -Q ₃)	p
The sports nutritional supplements belief scale	Yes	333	4,33 (3,17-5,00)	,001
	No	294	3,67 (2,83-4,67)	
The disengagement from sports ethics with doping scale	Yes	333	1,83 (1,00-2,83)	,001
	No	294	2,17 (1,50-3,00)	

Table 5. Mann Whitney-U test analysis results of the sports nutritional supplements belief scale and the disengagement from sports ethics with doping scale according to sports branches

Scales	Branches	n	Median (Q ₁ -Q ₃)	p
The sports nutritional supplements belief scale	Individual	346	4,00 (2,83-4,83)	,306
	Team	281	4,00 (3,00-5,00)	
The disengagement from sports ethics with doping scale	Individual	346	2,00 (1,17-2,83)	,015
	Team	281	2,00 (1,33-3,17)	

Table 6. Mann Whitney-U test analysis results of the sports nutritional supplements belief scale and the disengagement from sports ethics with doping scale according to ages

Scales	Ages	n	Median (Q ₁ -Q ₃)	p
The sports nutritional supplements belief scale	Ages 18-21	347	3,83 (2,83-4,67)	,010
	Age 22 and over	280	4,17 (3,17-5,00)	
The disengagement from sports ethics with doping scale	Ages 18-21	347	2,00 (1,33-3,00)	,256
	Age 22 and over	280	2,00 (1,00-3,00)	

Table 7. Kruskal Wallis test analysis results of the sports nutritional supplements belief scale and the disengagement from sports ethics with doping scale according to sports year

Scales	Sports year	n	Median (Q ₁ -Q ₃)	p
The sports nutritional supplements belief scale	1-5 years	179	3,83 (2,83-4,67)	,088
	6-10 years	219	3,83 (3,00-5,00)	
	11 years and over	229	4,33 (3,25-5,00)	
The disengagement from sports ethics with doping scale	1-5 years	179	2,00 (1,50-3,00)	,467
	6-10 years	219	2,00 (1,17-3,00)	
	11 years and over	229	2,00 (1,00-3,00)	

nutritional supplements belief scale and disengagement from sports ethics with doping scale according to sports year ($p > 0.05$).

Discussion and Conclusion

The results have shown that athletes were moderate agreed with the belief in sports nutritional supplements, while they didn't agree with the disengagement from sports ethics with doping. In other words, athletes believe that nutritional supplements can be used from time to time, but the use of doping generally leads to disengagement from sport ethics. In Karatas and Cevrim's study (2011) with athlete students, the students' answer to the question "Why didn't you use doping?" was that they thought it would be "ethically wrong" (10). In the study of enel et al. (2004), a significant proportion of athletes (91.7 %) said they would never use illegal substances (12). Dierickx, Deckx and Hens (2012) reported that doping was considered a threat to fair play by the athletes (13).

The relationship between the total sports nutritional supplements belief scale score and the total disengagement from sports ethics with doping scale score were found to be positively significantly lower. Therefore, as the belief of athletes in nutritional supplements increases, so does the idea that the use of

doping becomes not unethical. In other words, according to athletes using nutritional supplements, doping is considered to be an available substance. As a result of their work, Karafil, Ula and Atay (2019) emphasized that athletes are turning to the use of doping and similar prohibited substances by increasing their belief in sports nutritional supplements (3). Similarly, in their study, Hurst et al. (2019) found that athletes who believed that nutritional supplements were effective and who used nutritional supplements were more prone to the use of doping (14).

The results in the study showed no significant difference in the total score of the disengagement from sports ethics with doping scale by gender.

In this study, it was determined that the beliefs of national athletes in nutritional supplements were higher than those of non-national athletes, and that the total scores of the disengagement from sports ethics with doping were significantly higher than those of national athletes. Accordingly, non-national athletes believe that doping can be used and that it is not a behavior that would disengage of sports ethics with doping. However, it can be said that national athletes believe in the use of nutritional supplements that do not substitute for doping substances to improve their performance and regain their lost energy. Similar to this study in literature Ersöz's (2007) study, the vast majority of athletes, wrestlers, judokas, and weight-lifters

who play sports at the national level stated that the use of doping in sports damages the spirit of fair-play (15). Unlike to this study, Yıldırım and Sahin's (2019) study found that nearly half of the national team wrestlers tolerate doping and other unethical behavior (16).

According to another finding, the total score of the disengagement from sports ethics with doping scale of team athletes was significantly higher than that of individual athletes, while the total score of the sports nutritional supplements belief scale was not significantly different from that of the branch. Accordingly, team athletes believe that, unlike individual athletes, the use of doping does not disengage of sports ethics. The reason why team athletes such as football, basketball, handball, and volleyball participated in the study normalized the use of doping compared to individual athletes is due to factors such as high premiums, a desire to gain individual fame and high transfer fees to their clubs after a successful season.

In this study, it was observed that the beliefs of older athletes in sports nutritional supplements were significantly higher than those of younger athletes, while the disengagement from sports ethics with doping scale was not significantly different according to age. In other words, experienced athletes think that the use of nutritional supplements without a legal sanction would be more appropriate.

According to another finding, there was no significant difference between the sports nutritional supplements belief scale and the disengagement from sports ethics with doping scale in terms of the sports year. Unlike the research results, Dinçer (2010) concluded that athletes with the sports year between 1-3 years and 4-7 years strongly agree that using doping leads to unfair competition, while athletes with the sports year between 7-11 years disagree with this view and accordingly, as the age of sport increases, athletes do not care about unfair competition and winning becomes a more important phenomenon than unfair competition (17).

As a result, it has been observed that increasing beliefs in nutritional supplementation in sport cause athletes to disengage of sports ethics with doping. It has been concluded that doping, which is used to achieve success initially in team athletes and non-national athletes, does not disengage from ethics, is more dominant and that male athletes, national athletes, and

older athletes had higher faith in nutritional supplements in sports.

Conflicts of interest

The authors declare that there is no conflict of interest about this manuscript.

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