

## Doping in Sports: Athletes' and Coaches' Views

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### Abstract

**Aim:** This research aims to determine athletes' and coaches' views on the use and effects of doping and to make suggestions for the prevention of doping.

**Material and Methods:** The research group consisted of athletes and coaches with various branches selected by purposeful sampling technique. Twelve males participated in the study (8 athletes and 4 coaches). The age of the participants was between 22 and 40 years and graduated. In order to ensure the validity and reliability of the data, the opinions of three experts working in the field of sports sciences were consulted. The data were first described systematically and explicitly, and then codes, and then the themes were determined by interpreting these descriptions.

**Results:** Participants showed three main reasons for using doping: "to provide rapid muscle development", "to increase sport performance" and "to have a better physical appearance". Participants indicated that they are knowledgeable about doping damages but it is very difficult to prevent it from being used. However, as long as the opponents continue to use doping, they have stated that they will continue to use them as well. Participants who stated that they obtained doping materials mostly through "coaches", "pharmacies" and "intermediaries from abroad" stated that it would be possible to prevent the use of these substances only with the increase of the control and punishment across the country.

**Conclusion:** According to the results of the research, it has been observed that the athletes who use doping do not have sufficient knowledge about the ingredients or effects of the substances. Also, participants in the study indicated that legal regulations and inspections about the prevention of doping use were inadequate.

### Keywords

Doping,  
Athlete,  
Coach,  
Planned Behaviour Theory

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## Sporda Doping: Antrenör ve Sporcu Görüşleri

### Öz

**Amaç:** Bu araştırmanın amacı sporcu ve antrenörlerin, doping kullanımına ve etkilerine ilişkin görüşlerini tespit etmek ve dopingin önlenmesine yönelik önerilerde bulunmaktır.

**Materyal ve Metot:** Araştırma grubu, amaçlı örnekleme tekniği ile seçilen çeşitli branşlara sahip sporcu ve antrenörlerden oluşmaktadır. Araştırmaya 12 kişi (8 sporcu ve 4 antrenör) katılmıştır. Araştırma grubunun tamamı erkek katılımcılardan oluşmaktadır. Katılımcılar 22-40 yaş aralığında olup, en az lise mezunudur. Verilerin geçerliğini ve güvenilirliğini sağlamak için spor bilimleri alanında çalışan üç uzmanın görüşlerine başvurulmuştur. Veriler önce sistematik ve açık bir biçimde betimlenmiş, daha sonra yapılan bu betimlemeler yorumlanarak, önce kodlar, daha sonra temalar saptanmıştır.

**Bulgular:** Katılımcılar, doping kullanma nedenleri olarak, "hızlı kas gelişimi sağlamak", "sportif performans artışı sağlamak" ve "daha iyi bir fiziki görünüme sahip olmak" şeklinde üç ana neden göstermişlerdir. Katılımcılar doping maddelerinin zararları konusunda bilgileri olduğunu, ancak kullanılmasının önüne geçilmesinin çok zor olduğunu belirtmişlerdir. Ancak rakipleri doping kullanmaya devam ettiği sürece bu maddeleri kendilerinin de kullanmaya devam edebileceklerini belirtmişlerdir. Doping maddelerini çoğunlukla "antrenörlerinden", "eczanelerden" ve "yurtdışından araçlar yolu" ile elde ettiklerini belirten katılımcılar, bu maddelerin kullanılmasının önlenilmesinin ancak ülke çapında yapılan denetim ve cezaların artırılması ile mümkün olabileceğini belirtmişlerdir. Katılımcılardan bazıları; bilinçli kullanılması, yeterli alım gücüne sahip olunması ve yarışmaya girilmesi durumunda doping maddelerini çevrelerindeki kişilere önerebileceklerini belirtirken, bazı katılımcılar ise bu maddelerin kullanılmamasını önereceklerini belirtmişlerdir.

**Sonuç:** Araştırmanın sonuçlarına göre, doping kullanan sporcuların, maddelerin içeriği veya etkileri hakkında yeterli bilgiye sahip olmadığı görülmüştür. Ayrıca araştırmaya katılanlar, doping kullanımının önlenmesine ilişkin yasal düzenlemelerin ve denetimlerin yetersiz olduğunu belirtmişlerdir.

### Anahtar Kelimeler

Doping,  
Sporcu,  
Antrenör,  
Planlanmış Davranış Teorisi

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## INTRODUCTION

Doping, which has existed throughout the history of races and contests from horse races until today, is defined as the application of medicines and methods that violate the rules of competition in professional branches of sports and pose a health risk in order to improve performance and sports endurance (Ntoumanis, Barkoukis & Backhouse, 2014; Tayade & Latti, 2017). In consequence of physical activity, the human body intrinsically needs a good nutritional program, oxygen, and resting. Since it needs intensive labor and time to meet this need, athletes want to supply them with materials taken from nutrition (Taware & Bansode, 2015). These substances cause a variety of health problems, ranging from the risk of fertility loss to hypertension or psychiatric behavioral disorders, as well as entailing some ethical problems (Mallia, Lucidi, Zelli & Violani, 2013). Due to such factors as media publicity, expectations of financial gain, perfectionism, pain relief, additional weight loss, increases in performance, and personal attitudes and sports commercialization, unfortunately the tendency to use doping is increasing nowadays (Hoff, 2015; Lazuras, Barkoukis & Tsorbatzoudis, 2015; Ntoumanis, Barkoukis, Gucciardi & Chan, 2017; Psouni, Zourbanos & Theodorakis, 2015).

The tendency of using the doping material is seen especially in fitness, bodybuilding, young athletes (Ntoumanis et al., 2014), and that such use is increasing despite the efforts made to prevent it, has prompted researchers to examine why and how these materials are procured (Ohl, Fincoeur, Lentillon-Kaestner, Defrance & Brissonneau, 2015; Van den Broek, Blokland, Nessen & Sterk, 2015). For even though punishing and condemning the athlete who commits doping seems easy to the auditing units, this control seems much more difficult than the social demand placed on the athlete by society (Negro, Marzullo, Caso, Calanni & D'Antona, 2018). Doping is a collaborative act involving the people around the athlete (coach, support staff, teammates), even though he is legally a criminal who is held responsible for the doping and takes the blame (Teetzel, 2006).

Recent studies have emphasized that a tightened inspection and penalty system to prevent the use of doping is not actually very effective and that it is more useful to give anti-doping education instead (Blank et al., 2015; Lazuras et al., 2015; Van den Broek et al., 2015). Professional athletes resort to illegal and unethical methods in order to gain substances that have been banned by many international sports organizations, including the International Olympic Committee, and that is difficult to obtain (Tayade & Latti, 2017). Despite significant improvements over recent years in control-use tests to detect doping use, the inadequacy of current methods Van den Broek et al., (2015) clearly demonstrates that doping use cannot be avoided unless changes are made to existing prevention strategies (Lazuras et al.).

Though the use of doping substances stems from social reasons such as winning races or financial gain, in the studies that analyzed the psycho-social background of this subject (Hoff, 2015), mental conditions such as mental conditions like bigorexia "*a person feels physically inadequate and continually wants to improve body muscle*", exercise dependence, and the desire to have a perfect body shape seem to increase the use of doping (Azaiez, Alajjouri, Lahmar & Chalghaf, 2014; Hoff, 2015). Another reason why the frequency of use is so intense is that coaches or athletes at any level and branch can easily obtain these items (Türkçapar, Mine & Mustafa, 2014). With easy accessibility, it would appear that 10–15% of athletes, between 40% and 70% of whom receive food supplements, maybe using prohibited substances (Outram & Stewart, 2015), and thus many athletes who are performing, whether competitively or not, are likely to create irreversible health problems for themselves in the future (Barkoukis, Lazuras, Tsorbatzoudis & Rodafinos, 2013).

The fact that the positive and negative effects of doping substances on athletes have not been thoroughly tested in the long run suggests the need for a systematic research sequence, but these substances should be seen as the first reason for sudden athlete deaths (Negro et al., 2018). The prevention of health problems caused by these substances, the principle of equality in sports, and the reaffirmation of the sporting spirit lie behind the regulations to prevent doping imposed by anti-doping organizations in the past decade (Tayade & Latti, 2017). It is emphasized that there will always be a conflict between the sports sector and anti-doping controllers, and unless the existing preventive methods are updated and more effective penalties are set, this controversy will continue (Bowers & Paternoster 2017).

In the doping studies literature, doping behavior is explained based on one or more of Planned Behavior, Social Cognitive, Social Acceptance, and Social Identity Theories (Hutchinson, Moston & Engelberg, 2018; Kirby, Guerin, Moran & Matthews, 2016; Ring & Kavussanu 2018). Social Cognitive Theory explains human behaviors and the effects of these behaviors based on ethical responsibility.

According to this theory, when people show behavior within the framework of ethical codes, they feel good; otherwise they feel bad. The theory explains that, this type of effect can lead athletes to actions that would avoid the behavior of doping use (Ring & Kavussanu). While Social Acceptance Theory explains that people tend toward the use of this type of substance under the impulse of acting and behaving as part of a group or social circle (Hutchinson et al.), Social Identity Theory on the other hand explain that individuals have their own identities and that they act to protect and support the identity they define and describe themselves with (Cannella, Jones & Withers, 2015; Islam, 2014).

Planned Behavior Theory explains that the activities to be carried out reflect the preferences of the individual, and that the individual acts as a result of these preferences after thinking through the positive or negative consequences of the action (Ajzen & Driver, 1992). The theory emphasizes that these behaviors are formed by faith, passion, social influence, attitude, and motivation (De-Leeuw, Valois, Ajzen & Schmidt, 2015). Based on the model of Planned Behavior Theory, a study of the attitudes and intentions of athletes and coaches toward doping by Psouni et al. (2015) revealed that perception of attitude is an important factor among the reasons for athletes' using doping, and it has also been found that attitudes and behaviors of coaches on this topic influence the attitudes and behaviors of the athletes and thus their use of doping substances (Chan et al., 2015). Planned Behavior Theory is taken as the basis of this study examining the social effects on people using doping in sports, perceived behavioral control, attitudes and beliefs (Kirby et al., 2016), and the positive and negative emotions determining their choices (Ajzen & Driver). This study included information from twelve participants who admitted to using more than one doping substance, and all participants had experienced the negative effects of doping on their performance. Although there have been many studies on the use of doping, this study reflects the opinions of the doping substance users. The participants described in detail the causes of doping and the damages they suffered.

Unlike other studies, this study focuses on the details of how the doping substances are provided. Participants also asked coaches and athletes in different countries to help them bring these items to their home country. It is important for the participants to give detailed information about the damages of doping substances and methods of obtaining doping substances. Thus, this study makes recommendations to better prevent access to doping substances. It is thought that the study presents a different perspective against the researches in the literature. Therefore, in this research, it was aimed to investigate the reasons of doping and to prevent doping use.

## **METHODS**

This research is designed as a qualitative study. Qualitative study, depends on the careful definitions of words, the development of concepts and variables, and the plotting of interrelationships between them (Walliman, 2017). A phenomenological approach was used in the research. The phenomenological pattern, which is frequently used in qualitative research, gives explanatory information about how people experience a phenomenon. This method, which is used in in-depth interviews, reveals the experiences of the individuals. Phenomenology is not only a description, but is also seen as an interpretive process in which the researcher makes an interpretation of the meaning of the lived experiences (Creswell, 2007). The phenomenological pattern focuses on human experiences in which social reality is created. This method focuses on uncovering perceptions and experiences arising from the researcher's own point of view (Saban and Ersoy, 2016, p.54-55). In particular, it is recommended to use this pattern in researches that emphasize or try to explain how the participants have experience in a particular process or event (Seggie and Bayyurt, 2017, p.70). In the research, non-probability sampling method was used. This method consists of six sub-sampling methods. In our study, "purposive sampling" method was preferred among these sub-methods. Purposeful sampling is a sampling technique which is suitable for individuals with limited and difficult to reach individual characteristics. The most important factor is the selection of the participants with the characteristics that will contribute to the research with this sampling method (Berg, 1988, p.32; Erkuş, 2013, p.122-123).

### **Data Collection Tool**

The data of the study were obtained through a "semi-structured interview form." Interview form included twelve questions besides the demographic information on why participants use doping substances and the effects they see, the methods by which they obtain these substances, how long they use them, and how to prevent doping. In-depth interview technique was used in the research. In this

interview method, the researcher can ask questions by face-to-face or remote communication tools. In this type of interviews, while searching for answers related to the subject matter, the personal perspective that the participant wants to share on the subject is also explored (Seggie and Bayyurt, 2017, p.186). Research questions are consisting of researching and limiting the theoretical framework. In this case, the literature related to the subject was searched and the sample question items were examined and the questions that were suitable for the problem of the research were selected. (Karataş, 2015). In qualitative research, it is an important method to prepare questions that are appropriate to the research problem and theory, as well as unstructured interviews with non-standard questions that arise during the interview process. (Koca, 2017). When selecting research questions, it is intended to examine a witness, analyze a situation that has an impact on the community, or elaborate on an observed situation (eg, students' reaction to the teacher's attack, etc.) (Berriam, 2009, p.88). In our research, theoretical environment and pre-determined questions that can support the research problem are used. A non-standard question item was not added to the questions.

The interviews lasted between 20 and 40 minutes. The data were first described systematically and explicitly, and then codes and themes were determined by interpreting these descriptions. Before the data were collected, people who used doping substances were asked if they would like to participate in this type of study. After the permission of the participants, a preliminary introduction was made explaining the question items. Then, the data were collected through one-to-one interviews. No recorder or similar material was used during the interviews. The participants were informed about the subject and the researcher read the questions. The answers of the participants were noted by the researcher himself.

### **Validity and Reliability**

In order to determine the validity (transferability) and reliability (consistency) of the data, the meaning of the relations between feelings and thoughts in the questions were examined and evaluated with the opinions of three experts working in the field of sports science (Başkale, 2016; Karataş, 2015). In qualitative researches the validity divided into two sections. The first one is, "internal validity". This is the adequacy of the process followed in reaching the results to reveal the reality of the study. The second one is, "external validity", which explains the transferability of the results to similar groups or environments. For internal validity, the relationship between the findings of the research and the research problem was examined. Accordingly, the credibility of the findings, the method of depiction, or their completeness were examined (Karataş; Saban and Ersoy, 2016, p.134). External validity is about defining and explaining the area in which the findings can be generalized. In this case, the limitations of the study were generalized with similar studies. Reliability in qualitative research is divided into two parts. Internal reliability (internal consistency) and clarity were brought to the research questions and other researchers were asked to confirm the data. In external reliability (confirmability), characteristics of participants, data collection and analysis were confirmed by independent individuals (Karataş; Saban and Ersoy, p.135).

Research findings were collected and analyzed in accordance with these verification methods. The researcher used expert opinion to ensure the accuracy of the data and received expert confirmation that the comments were clear. It was determined by the researcher that the same results can be obtained when the data used in the research is repeated in the same environment (Başkale, 2016). At the same time, the same study was conducted on more people than the participants. This type of technique has provided confirmation of internal reliability. Replications were provided between the interviewees and the data obtained. Such a situation seems necessary for the credibility of the data. At the same time, the participants were asked questions including feedback and member checking was provided. Peer debriefing was ensured with expert examination. "Triangulation" technique was used for reliability and the results were confirmed to different experts. The participants' own statements were directly reflected in the study, thereby ensuring "confirmability".

### **Participants**

The data were obtained from a total of 12 participants, including 8 athletes and 4 coaches. All participants are actively training in bodybuilding, wrestling, and kickboxing in different fitness centers in Turkey-Ankara. All participants have participated in competitions at least once and have a minimum of 15 years' sporting experience. Participants' views were coded as P1.....P12. Participants were at least high school graduates. Nine participants (75%) used doping substances for one year and three

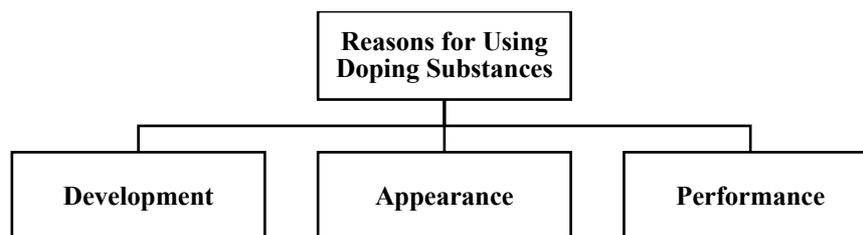
participants (25%) reported using these substances for more than one year. As to the amount of money spent on doping substances, three participants (25%) seem to have spent between \$28 (USD) and \$143 (25%), five participants between \$144 and \$287 (41.7%), three participants \$288 and \$862 (25%), and one participant between \$863 and \$1436. All athletes and coaches who participated in this study had used a doping substance at least once during the preceding year. Persons using a single doping substance or only doing so in short-term trials were excluded from the study. All athletes are licensed and have participated in various competitions, and all athletes and coaches are actively engaged in sports. All statements contained in the study represent the participants' own experience. Before taking part in the study, the required permission, including the confidentiality of personal information, was obtained from the participants and an informed consent form was signed.

### Data Analysis

In data analysis, the researcher must direct thought toward how data will be organized and analyzed before beginning the data-collection process. Typically, the immediately collected raw data are not immediately available for analysis. Rather, the raw data requires some sort of organizing and processing before it can actually be analyzed. Field notes, for example, may fill hundreds of pages of note books or take up thousands of megabytes of space on a computer disk. These notes need to be edited, corrected, and made more readable, even before they can be organized, indexed, or entered into a computer-generated text analysis program file. Recorded interviews must be transcribed (transformed into written text), corrected, and edited; also, before being somehow indexed or entered into a text-based computer analysis program (Berg, 1988, p.34). The data obtained from the interviews were analyzed using a content analysis method. When conducting content analysis in qualitative research, the issue that needs to be decided is how to focus on the content. In this sense, perceived concepts requiring inference, meaning expression, coding, abbreviation, solution, categorization and themes need to be created (Seggie and Bayyurt, 2017, p.255). Under this heading, concepts related to each other obtained from the content analysis are grouped under a specific theme. When the data are coded, the information obtained is deeply examined and divided into meaningful sections. Accordingly, the research data were examined, and the themes and codes were formed. These generated codes are presented under the themes with user opinions.

## RESULTS

In the theme of the reasons for using doping substances, participants expressed different views of the purpose of using these substances (Figure 1). When the opinions were examined, the codes "Development," "Appearance," and "Performance" were seen. Participants mentioned that when they used these substances they experienced muscle growth in a short time, and they emphasized that they used these substances continuously for a better appearance.



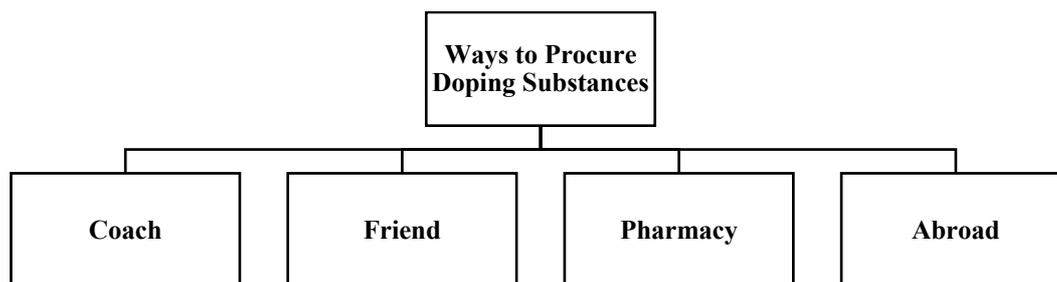
**Figure 1.** The theme of reasons for using doping substances

Some of the answers given by the participants, who also pointed out that the doping substances have improved their sports performances, are given below.

- *"I use it to have a better appearance and to improve my body muscles quickly, because I need long training sessions and a diet to reach the muscle mass I want" (P3).*
- *"With these substances, I get fit faster. Within one year I can do the muscle development that I can do in two years without doping materials thanks to these substances" (P4).*

- *“Development can be achieved without doping materials, but these materials aim to achieve the desired performance in a short time. For this reason, the desired development cannot be achieved within a normal training time” (P8).*
- *“Thanks to doping substances, a significant muscle growth can be seen. You stay in shape for a long time and you get this result in less time. When I stop using it, I definitely experience a decline” (P12).*
- *“First, I started using these substances to lose weight, then I continued to use them to have a fit and muscular body and to get a healthier appearance” (P4).*
- *“My interest in the opposite sex and the desire for my body to look better led me to use these substances” (P6).*
- *“I use these substances to have a better physical appearance. It also accelerates muscle growth and body fat burning. I need to keep looking good and make it better than it is” (P3).*
- *“People want to watch superwomen and men in competitions. If we can still watch the elite athletes and the records are still broken, there is also tolerance. I think I will continue to use these substances periodically because these substances make me Superman” (P2).*
- *“The sporting efficiency before and after using the doping substances is not the same. I lose sports performance when I outgrow them” (P9).*
- *“After using these substances, I got high performance in sports. It speeds up blood flow and causes faster recovery. I also got muscle and power gain” (P11).*

In terms of ways to obtain doping substances, participants indicated different ways that these substances were procured, yielding the codes “Coach,” “Friend,” “Pharmacy,” and “Abroad” (Figure 2).

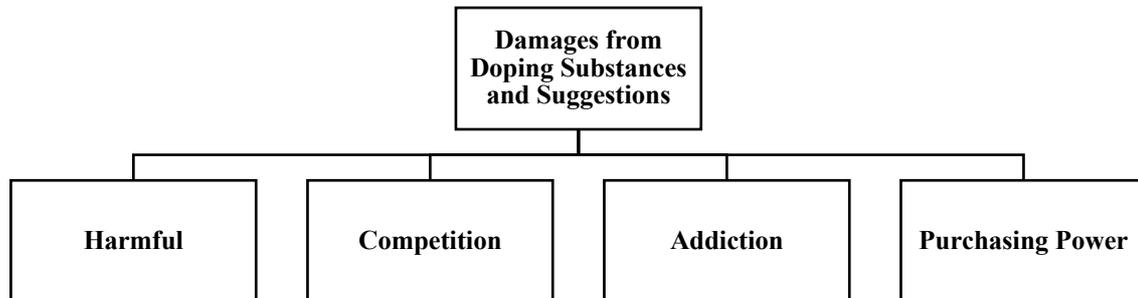


**Figure 2.** The theme of ways to procure doping substances

Some of the participants stated that they obtained doping substances from their friends and coaches. The other participants, who stated that the doping materials could easily be obtained from pharmacies, stated that they obtained some items they could not find easily in pharmacies or intermediaries abroad. Some of the answers given by participants on how they obtained doping substances are given below.

- *“I obtain the doping substances through the coach in the sports hall. As long as you give your money, it’s very easy to get such items” (P1).*
- *“I got these substances from my coach. Since he can easily get the things he wants, I buy it from him” (P6).*
- *“It’s pretty easy for me to get the doping stuff. I can get these items from my friends in the gym. Anyway, mostly everyone knows each other” (P7).*
- *“I can get these items from the pharmacy, it is very easy to get and many people can easily get these things around” (P5).*
- *“It is very easy to obtain them from pharmacies. Also, those who go to the World Championship can get these items from there and bring them to the country. In this regard, the athletes can negotiate with each other” (P8).*
- *“Doping substances are available in pharmacies in our country. I have brought some items by Internet order, but people who are members of gyms already know where they can buy such items by hearing each other” (P3).*

- “I can supply the doping substances I want through friends going abroad. Besides, I did not have difficulty in finding these substances from pharmacies in Turkey. I did not have any trouble because there was no punishment” (P2).
- “I can get most of these items from the Middle East countries. There are various intermediaries in this regard and you can find these intermediaries on the Internet. Intermediaries can smuggle these items from abroad to the country and send them to your house by cargo” (P10).
- “Through friends I know I can bring doping substances from abroad. In particular, they can send testosterone substances to me by cargo from abroad” (P9).

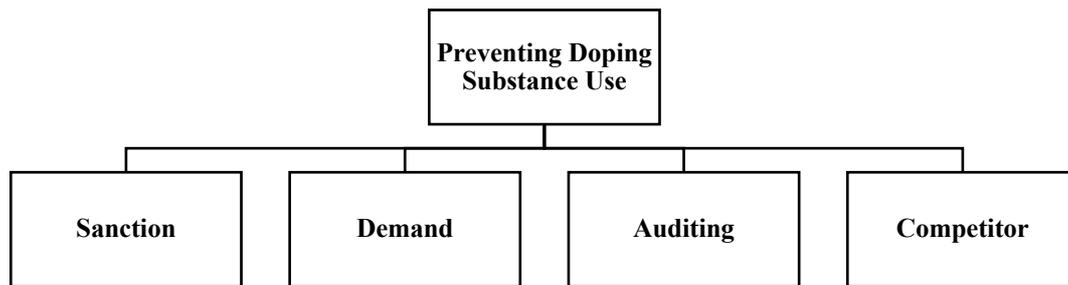


**Figure 3.** The theme of damages from doping substances and suggestions

In the context of the damages caused by doping substances, participants expressed different views on the damages of these substances fall under the codes “Harmful,” “Competition,” “Addiction,” and “Purchasing Power” (Figure 3). While some of the participants mentioned that they had enough information about the damages of the doping substances and they did not recommend their use, others mentioned that they would propose these items if the person’s financial situation is sufficient and if there is a competition. Some of the answers given by participants related to the damages and suggestions of the doping substances are given below.

- “I have some information about the damages of these items, but I use it by taking a break. So, I think I have been minimizing most of the damage” (P7).
- “During the time I used it, my back was covered with acne and my aggressiveness increased. My sexual desires were diminished. These effects went away during the breaks.” (P9).
- “I’ve had side effects like high blood pressure because some ingredients are too heavy. The damages of these substances are always known. You can see side effects such as acne, edema, and hair loss during the periods you are using” (P10).
- “I do not advise others to use these substances. The liver of a bodybuilder like Ronnie Coleman went sick and he is walking with a cane. These substances cause liver failure problems and sexual anorexia” (P8).
- “My suggestions to those who use them: Consciously use these substances because they accelerate the desired development but the amount of damage is great also” (P4).
- “If they use these substances they must be financially strong. Because these drugs need to be paid regularly every month. If this is the case, I recommend using it” (P6).
- “If you are a competitive athlete you are compulsorily using it because you are perceived as not being able to beat your opponent without doping. So you, too, tend to use these items” (P9).
- “I want to continue to use them as long as I continue to do this sport. Every time I think of myself as inadequate, I will continue to use these substances for addiction and personal satisfaction” (P10).

For preventing the use of doping substances, participants expressed different views on the prevention of the use of these substances classified under the codes “Sanction,” “Demand,” “Audit” and “Competitor” (Figure 4).



**Figure 4.** The theme of preventing doping substance use

Some of the participants stated that they are distrustful of their opponents and will continue to use them for this reason. Stating that the supervisory and control mechanisms of the local governments are an extremely important deterrent to prevent such sales, the participants emphasized that the excess demand made it difficult to prevent these sales. Some of the answers given by participants on the prevention of the use of doping substances are presented below.

- *“Of course, I cannot use it in an environment where nobody uses these substances, but I have to know that my opponents do not use it. This is not possible for me, so I think I will continue to use doping” (P2).*
- *“If you are a competitive athlete you are compelled to use it because you are perceived as not being able to beat your opponent without doping. That’s why you tend to use these substances. Even if there are restraints, it is very difficult to prevent this because purchases from abroad comfort us in this regard” (P9).*
- *“I think it is very difficult to prevent the use of these substances. There is also a demand” (P10).*
- *“I do not think it is possible to prevent the sale of doping substances because sales are usually made on the Internet. The intermediaries are very strong and the demand is too much. It is not possible to avoid this” (P7).*
- *“These items should not be sold without a prescription in pharmacies. Audit at customs should be increased. There must be heavy penalties in this regard” (P11).*
- *“With government policy these sales can be prevented. Pharmacies can be under strict control. Deterrent punishment is a definite must. Serious training on doping should be given in coaching education programs” (P8).*
- *“More frequent doping checks should be done for national athletes. I think that bimonthly doping controls can help prevent this kind of demand. The state should have very serious sanctions on this issue” (P9).*
- *“There must be an audit on the Internet in this regard. There are even sales through Instagram. If such audits are increased, nobody would want to get it and the problem would be solved” (P3).*
- *“I think that the use of them can be avoided as long as there are legal sanctions. Heavy penalties will reduce the usage level” (P12).*

## DISCUSSION

According to the data obtained from the interview form, all the participants stated that they use doping substances both to attain their expected performance and to defeat competitors. In a study conducted by Lazuras et al. (2015) in young athletes, it was determined that 57.2% of the participants (27 athletes) tended to use doping to meet their expected performance and that the athletes started using doping at an early age. These results are similar to the results of our study. Ntoumanis et al. (2017) found that coaches were more likely to make athletes use doping in interviews conducted with athletes between 15 and 36 years. This result is similar to the result obtained from our study that the athletes obtained doping substances from their coaches also. There are also different results in the literature apart from these results. As a matter of fact, in interviews conducted by Özbek (2013), most of the coaches stated that to the best of their knowledge they did not give any performance enhancers to the athletes, and some of them stated that they turned down such requests. In a study conducted by Hoff (2015) on the reasons for using doping, it was emphasized that the reasons for using these substances were not the individual but

also social. These causes are beginning to have a social impact, especially in power sports, and become a form of learned behavior. Such social effects can be explained by the desire to have more performance and more muscle mass to be more appreciated.

In our study, participants indicated that they had knowledge of the harms of doping substances, and many of them had observed such damage physiologically and psychologically, both in themselves and in people around them. In a study by Outram and Stewart (2015), a statistical analysis of nutritional support and doping use by athletes was conducted in which some athletes were considered to be inadvertently doping due to the ingredients in the nutritional supplement they used. However, an increase in the use of nutritional supplements can also be seen as directly proportional to the increase in doping use, as the athlete expects to nutritional supplementation with doping (Outram & Stewart). These results are similar to our research results. It was seen in our study that although adverse effects of doping use were observed by participants, it was found that they were not fully informed about doping damages and the ingredients of doping substances.

Participants in the interviews indicated that legal regulations and inspections to prevent doping use were inadequate. Similarly, in a study conducted by Ulrich et al. (2018), the athletes continued to use doping substances, even if biological tests were frequently conducted and controls increased, because these tests were not sufficiently effective. This result is similar to our finding. In the study conducted by De Hon, Kuipers and Van Bottenburg (2015) on doping prevalence in elite athletes, it was emphasized that about 39% of the elite athletes participating in the study used doping substances and that the number of athletes who had positive test results was less than expected, indicating that the doping tests were inadequate. These results are similar to those of our research. In a study examined the level of doping use among athletes in Italy, determined that the use of doping in young athletes increased significantly due to sociodemographic factors (Mallia et al. 2013).

According to the results of our research, the athletes who use doping do not have sufficient knowledge about the ingredients or effects of the substances. The same holds of coaches as well. This result shows us, the athletes and trainers have less knowledge about the doping use and unfortunately this problem, increases more doping use in sports. This result is related to the doping policy of the country as well as the lack of education. Anti-doping training for coaches who encourage their athletes to take doping substances is important to reduce the frequency of use, especially in young (Mallia et al., 2013) and professional athletes (De Hon et al., 2015). In a study conducted by Chan et al. (2015), it was found that coaches' motivations to prevent adverse situations such as "doping crime," "being disqualified from sports," and "having a bad reputation" for athletes were seen as an important environmental factor for doping prevention. Positive motivations not only of coaches but also of sports psychologists, managers, and anti-doping officials have also been emphasized in a similar study that kept athletes away from using doping and allowed them to see sports as a philosophy of life rather than as a tool (Erickson, McKenna & Backhouse, 2015). Motivating athletes with positive factors, such as the adoption of team spirit in team sports, personal ego management, identification of achievement, and awareness of the potential damages of doping, will help them avoid doping and ensure that the positive climate created by the coach also continues in the sports environment (Allen, Taylor, Dimeo, Dixon & Robinson, 2015).

Increasing local audits will also reduce the procurement of these substances, as well as provide a cleaner structure for sports. In this regard, anti-doping specialists' observations regarding existing prevention policies and updating the methods used can be seen as a solution. Indeed, if athletes can overcome these methods, anti-doping efforts will inevitably fail (De Hon et al., 2015). Thus, anti-doping organizations can connect with local sports organizations and research so that athletes, coaches, and sports managers can be trained in this issue. Such studies may be an important step in raising the awareness of athletes, reducing the demand for doping materials, and training healthier athletes. The use of doping can be avoided by tightly controlling the production and sale of doping substances at the local and international level.

According to the Planned Behavior Theory, human behavior is guided by three kinds of considerations: beliefs about the likely outcomes of the behavior and the evaluations of these outcomes (behavioral beliefs), beliefs about the normative expectations of others and motivations to comply with these expectations (normative beliefs), and beliefs about the presence of factors that may facilitate or impede the performance of the behavior and the perceived power of these factors (control beliefs). In the aggregate, behavioral beliefs produce a favorable or unfavorable attitude toward the behavior;

normative beliefs result in perceived social pressure or subjective norms; and control beliefs give rise to perceived behavioral control. In combination, the attitude toward the behavior, subjective norms, and perception of behavioral control lead to the formation of a behavioral intention. Behavioral beliefs associate a behavior with certain outcomes and other attributes, and they determine the attitude toward the behavior in line with the subjective values of these outcomes and attributes (Ajzen, 1971). This study can be seen as a result of beliefs about human behavior described in Planned Behavior Theory. Because the people who use doping develop a motivation by knowing the consequences of their behavior (behavioral beliefs) and following their expectations (normative beliefs), these expectations can be seen as the most important sociological factor affecting their access to harmful substances such as doping, because athletes both use illegal means and spend a significant amount of money to obtain doping substances.

## CONCLUSION

The athletes and coaches stated that they had suffered long-term physiological and psychological damage after using doping agents. It has been found that they have developed many different methods to find doping agents, including Internet shopping. How doping substances from different countries were delivered to athletes and coaches were revealed in detail in the study. When the results were examined, it was found that local governments should take more preventive measures in this regard. There are many studies on the use of doping in the literature. However, in this study, the athletes and coaches themselves give their reasons for the use of doping in different sports and explain their methods of obtaining doping substances in detail. It was determined that athletes and coaches did not want to use doping substances due to the possible damage but were affected by their environment. All athletes and coaches participating in the study request the prevention of the sale of doping substances.

## SUGGESTIONS

**Suggestions for future researchers:** In the future, research can be expanded with quantitative scales. It can be compared with different studies examining the attitudes of athletes. The types of sports used in this research can be expanded. The data obtained with the participation of athletes competing in different sports can be compared with the similar researches. Qualitative question items used in the research can be increased. The opinions of sports managers about the frequency of doping use can be included in the research.

**Suggestions for research results:** When the results of the research are examined, it may be necessary to conduct seminars that include recommendations on the harm of doping substances. Seminars can be programmed with experts from the university. Necessary measures should be taken by the authorities for the complete prohibition and inspection of doping substances. Although pharmacies have great responsibilities in this regard, the ministry of health and sports should take joint measures to prevent the sale of doping substances completely.

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