

# On the Relationship of Doping with Aggression, Anxiety, and Depression in Champion Athletes of Kermanshah

Afshin Sharifi<sup>1,\*</sup>, Iran Mehdizadegan<sup>2</sup>, Zhaleh Mehdiabadi<sup>3</sup>, Saeed Sadeghi Boroujerdi<sup>4</sup>, Bahram Yousefi<sup>5</sup>

<sup>1</sup>Physical Education Faculty, IAU-Kermanshah Branch, Kermanshah, Iran

<sup>2</sup>Department of Psychology, Psychology and Educational Sciences Faculty, IAU-Esfahan, Khorasgan Branch, Esfahan, Iran

<sup>3</sup>Department of Psychology, Psychology and Educational Sciences Faculty, IAU-Kermanshah Branch, Kermanshah, Iran

<sup>4</sup>Department of Physical Education, Humanities Faculty, Kurdistan University, Kurdistan, Iran

<sup>5</sup>Department of Sport Management, Physical Education Faculty, Razi University, Kermanshah, Iran

## Email address

afshin.sharifi5@gmail.com (A. Sharifi)

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## Abstract

**Background:** In today's world of professional sports in which victory and championship are the starting point and endpoint; unfortunately, doping has become an integral part of sport. This malevolent phenomenon not only threatens athletes' body, but also negatively influences their spirits. The present study is an attempt to investigate the relationship of doping with aggression, anxiety, and depression in champion athletes of Kermanshah. **Method:** With regard to the applied nature of this study, a descriptive method along with a correlational approach was employed for the study. All the champion athletes of Kermanshah constituted the statistical population of the study, among whom the number of 195 people was selected as the participants through random sampling. The respondents completed Buss-Perry Aggression Questionnaire, Beck Depression Inventory, Spielberger Anxiety Inventory, and a researcher-made questionnaire. The data obtained from the questionnaires were analyzed in SPSS software using descriptive indexes and Pearson correlation test. **Results:** The results showed that there is no significant relationship between the use of banned athletic performance-enhancing drugs by athletic competitors and depression, but there is a significant relationship of doping with anxiety and aggression in physical, verbal and anger elements. **Conclusion:** Since the harmful effects of performance-enhancing drugs influence the mental and behavioral states of sports champions and threaten the whole society, the attention and efforts of the authorities and the society to this issue are necessary and important.

## Keywords

Sports Champions, Anxiety, Depression, Aggression, Doping

## 1. Introduction

Today, sport is an important part of many people's life. Some do it for fun and some do it professionally. Growing attention to this phenomenon has caused sport to be introduced as an international basic industry around the world (Juhn MS, 2003).

Despite all the advantages and benefits of sport, one of the problems with it, especially in recent decades is the officials, coaches, and athletes' excessive attention to the results of sport competitions and marginal issues such as improving the

appearance of the body by increasing muscle size and mass. This issue has increased the incidence of eating disorders and the use of banned athletic performance-enhancing drugs among teenagers and adolescents since young men tend to have a muscular body. Similarly, various advertising of the media that the ideal for men is the enjoyment of a muscular body contributes to the problem (Laber MP, 2002).

Use of performance-enhancing substances is extensively found in a wide variety of sports among athletes and non-athletes at different levels. Not only do professional athletes use performance-enhancing substances, but novice athletes, non-athletes, and even junior and senior high school students

use these drugs (Sarлак, Kashi & Kargarfard, 2003). Supplemental drugs are defined as the tools to enhance the ability of building muscles in the body of athletes. In most cases, people start taking such drugs with multivitamins, proteins, and creatine. The best known of these drugs are those that are used in sports and several studies have demonstrated the effects of their abuse.

Due to the rapid effects of illicit drugs and supplements whose effects are unfortunately very short-term, athletes tend to use these materials and may be involved in many negative repercussions, including depression, aggression, impotence, stroke, internal bleeding, seizures, osteoporosis, hands and feet shaking, nightmares, suicide, and murder. The first point to note is that an athlete should not necessarily use supplements to grow his/her muscles, although

the use of them can help him/her do this with much greater speed (Kargarfard & Kashi, 2007).

Aggression is referred to as a powerful and purposeful act that can be verbal or physical. It also stimulates the motor context of anger or hostile feelings in neurological deficits of temporal lobe, impulse control disorders, and schizophrenia (Sadock & Sadock, 2003). Some psychologists believe that aggression is some behavior that can harm people or have the potential to harm others. Aggression may be physical, verbal or violating the rights of others. This group of psychologists distinguish between instrumental aggression and hostile aggression (2007).

Depression is a mental-physical illness. Psychological symptoms of this illness may be associated with feelings of sadness or anxiety to severe hallucinations and delusions, while its physical symptoms include insomnia and/or weight loss (Mackenzie, 2005). Every person may experience depression at different levels of his/her age. This illness can influence physical health, emotions, behavior, and mental health of humans. Symptoms such as sadness, feelings of worthlessness, difficulty concentrating, inability to think, guilty feelings, insomnia, feelings of failure, and many other dangerous symptoms are observed in depressed humans (Hosseini & Mehdizadeh Ashrafi, 2011).

Anxiety is referred to as unpleasant sensations associated with fear and panic along with one or more physiological responses such as heart palpitations and high sweating. Some people are often slightly anxious which is considered as a characteristic of trait anxiety. If anxiety is experienced only in a special position and situation, it is called state anxiety. Anxiety as part of humans' life is a component of personality forming. From this perspective, anxiety disorder can be seen as the most common type of trauma. According to another perspective, a person feel anxious when faced with a situation that is not under his/her control.

The main research theme, here, is the psychological effects of doping in three areas of anxiety, depression, and aggression. It should be mentioned that the indiscriminate use of these drugs in athletes has led to aggression in athletes in the past few years. An obvious example of this is the murder of one of the famous Iran's wrestling who killed a young man in a collective dispute with bullet. The wrestler is

now in jail awaiting the death penalty. Several similar events have happened in sport in recent years for the prevention of which a remedy should be devised.

Evidence suggests that the use of such drugs changes the healthy person into a psychological patient up to the point that there is no way of escape for the athletes using performance-enhancing drugs since these drugs make people highly dependent and abstention from them is tantamount to the ignorance of Championships and even leaving the sporting body. Experience has also shown that heroes of doping abusers turn to narcotic drugs to escape from depression after stopping the use of performance-enhancing drugs and consequent sport stoppage. Pahlevanzadeh et al. (2006) carried out a study to compare depression between two 50-student groups of athletes and non-athletes of Isfahan University of Medical Sciences and showed that 96% of the athletes enjoyed normal mood, while 66% non-athlete students had natural mood; the remaining 4% of athlete students were suffering from mild depression. In the same way, the mean score of severity of depression for athlete students was significantly higher than that for non-athletic students (Pahlevanzadeh et al., 2006). Kargarfard et al (2009) investigated the prevalence of doping and awareness of the repercussions and side effects of doping in the athletes of Lorestan Province and concluded that these athletes are not fully aware of the side effects of doping. Awareness of doping, attitude towards doping, championship series, weight, duration of previous sporting activity, the recognition of the name of the performance-enhancing material, and experience in other sports are among the most important predictors of performance-enhancing drug use (Kargarfard & Kashi, 2007).

This research was conducted in Kermanshah which entails all the athletes of power-related fields, including weightlifting, powerlifting, wrestling, and bodybuilding in national level, Asia and the world. The reasons that led to the conduct of this study include losses of life and many deaths that occurred in the years between amateur and professional athletes. Perhaps one of the most unfortunate events was the death of one of the athletes in the competitions pertinent to Iran's most powerful men in Kermanshah in 2005, in which Reza Azizian who fell behind his competitors in one of the items injected adrenaline in the locker room in order to compensate for the lost items in the next items, but he suffered a stroke a few moments later and lost his life.

Such events have frequently occurred in the sports of Kermanshah and Iran. Unfortunately, families are often not even willing to accept these events to be arising from the use of performance-enhancing drugs. Therefore, considering the vast scope of its dangerous side effects and given the large population of the youth, this study was an attempt to obtain the relationship of aggression, depression and anxiety with the use of performance-enhancing drugs.

## 2. Methods

All the champion athletes of Kermanshah who amounted

to 396 people constituted the statistical population of the study, among whom the number of 195 male and female athletes was selected as the participants through simple random sampling.

Buss–Perry Aggression Questionnaire, Beck Depression Inventory, Spielberger Anxiety Inventory, and a researcher-made questionnaire constituted the instruments for data gathering in this study. Aggression Questionnaire (AQ) is a self-report instrument consisting of 29 items and four subscales, including physical aggression (the questions numbered 1, 5, 9, 13, 17, 21, 24, 26, and 28), verbal aggression (the questions numbered 2, 6, 10, 14, and 18), anger (the questions numbered 3, 7, 11, 15, 19, 22, and 29), and hostility (the questions numbered 4, 8, 12, 16, 20, 23, 25, and 27). The revised 13-item Beck Depression Inventory has been developed for measuring depression (Beck, Brown & Steer, 2000). The items of this questionnaire are 4-choice ones that are scored between zero and 3. Thus, the total score of the scale range from zero to 39. Trait and state Spielberger Anxiety Inventory includes separate self-report scales which measure trait and state anxiety. This questionnaire consists of 40 questions wherein the first 20 questions measure state anxiety and the second 20 questions measure trait anxiety. Anxiety scale (form y-1 of the STAI) consists of 20 items, which appraise the feelings of individuals "at this moment and right now". Y-2 form of the STAI state anxiety consists of 20 items, which measure the general and common feelings of people. A researcher-made questionnaire was also used to assess the use of performance-enhancing drugs. The questionnaire contains 18 questions that have been arranged on a 5-choice Likert scale. The scoring of this scale starts from the alternative of very little to very much so that the alternatives are assigned points as follows: very little = 1,

little = 2, somewhat = 3, much = 4, and very much = 5. As per the calculations in this regard, Cronbach's alpha coefficient of this scale was obtained equal to .856 in this study. All the participants were presented with the same description and it was attempted to administer the test in a proper atmosphere. The collected data were analyzed via SPSS 18 software.

Data analysis was conducted based on the research goals using descriptive and inferential statistics. To determine the statistical characteristics of the athletes in terms of the variables of age, marital status, and economic status; current descriptive statistics such as frequency distributions, measures of central tendency and dispersion measures were used. For inferential statistics, Pearson's correlation test was used to determine the relationship between the variables.

### 3. Results

Descriptive results of this study showed that the mean score and standard deviation of the participants' age in this study were 26.3 and 4.774, respectively and 60.5% of the sample were single while the remaining 39.5% were married. Other descriptive findings showed that 5.1% of the athletes had a poor economic status, 9.7% of them had a bad economic status, 57.9% had an average economic status, 19.5% had good economic status, and 7.7% of them had excellent economic status.

On the investigation of the relationship between the use of performance-enhancing drugs and depression, the results of correlation test showed that the two variable were significantly and positively correlated with the 95% certainty (Table 1).

**Table 1.** The results of the correlation between the use of performance-enhancing drugs and depression

	Mean	SD	Correlation	Sig.
Use of performance-enhancing drugs	73.09	8.569	.128	.074
Depression	16.05	7.99		

**Table 2.** The results of the correlation between the use of performance-enhancing drugs and trait and state anxiety

	Mean	SD	Correlation	Sig.
Use of performance-enhancing drugs	73.09	8.569	.423	.007
State anxiety	45.46	15.823		
Use of performance-enhancing drugs	73.09	8.569	.231	.001
Trait anxiety	46.06	15.38		

**Table 3.** The results of the correlation between use of performance-enhancing drugs and aggression and its subscales

	Mean	SD	Correlation	Sig.
Use of performance-enhancing drugs	73.09	8.569	.189	.008
Aggression	89.24	18.75		
Use of performance-enhancing drugs	73.09	8.569	.199	.005
Physical aggression	27.38	7.21		
Use of performance-enhancing drugs	73.09	8.569	.157	.029
Verbal aggression	13.93	4.71		
Use of performance-enhancing drugs	73.09	8.569	.178	.013
Anger	23.12	4.066		
Use of performance-enhancing drugs	73.09	8.569	.113	.115
Hostility	24.81	5.64		

The findings of the study showed the availability of a significant association between the use of performance-enhancing drugs and state and trait anxiety by 95% certainty (Table 2).

In the same way, the results of the investigation of the relationship between the use of performance-enhancing drugs and aggression suggested that doping and aggression along with its dimensions except the dimension of hostility were significantly correlated together by 95% certainty (Table 3).

#### 4. Discussion

This study was an attempt to explore the relationship of doping with aggression, anxiety, and depression among champion athletes of Kermanshah. The findings of this study pertinent to the first hypothesis regarding the association between the use of performance-enhancing drugs and depression suggest that there was no significant relationship between the use of performance-enhancing drugs and depression. This finding is consistent with the findings obtained by Pahlevanzdeh, et al. (2006) and Shabani Bahar et al. (2011). Pahlevanzdeh, et al. (2006) showed that the severity of depression is significantly lower in athlete students than that in non-athlete students. Similarly, Shabani Bahar et al. (2011) showed that athletes of traditional sports had lower depression compared to others. It is very clear that the champion athletes do not undergo depression in the era of professional sports and championship which, in turn, is more involved with the use of performance-enhancing drugs since the use of such drugs secretes a hormone called endorphins (the body's natural morphine) in athletes' body. This hormone not only prevents depression, but also causes the vitality of athlete abusers. However, these athletes will undoubtedly undergo severe depression in the next years with the end of their professional activity in sports.

The findings of second hypothesis of this study suggest that there is a significant positive relationship between the use of performance-enhancing drugs and trait and state anxiety. The finding of the present study is consistent with that of the study conducted by Ghafouri et al. (2007) which is indicative of the absence of any significant relationship between kyphosis and anxiety in athletes and non-athletes. Similarly, this finding is consistent with the findings obtained by Shabani Bahar et al (2011) and Devane (2001). Devane (2001) argued that there is a significant difference between those who engage in regular physical activity at their leisure time and professional athletes in terms of the reduction of anxiety symptoms which is consistent with the results of this research. In addition, Shabani Bahar et al. (2011) demonstrated that athletes of traditional sports had lower anxiety compared to others. Since the abstention from doping in champion athletes is meant saying goodbye to the days of championship, these athletes sometimes tend to doping during their professional engagement in sports which takes from 10 to 15 years. Such athletes are always concerned about their health at the time of using performance-enhancing

drugs and in the future because they themselves are aware of the side effects of using these drugs. This is a clear realization of the issue that athletic doping abusers suffer anxiety.

In addition, the findings of the third hypothesis showed that there is a significant relationship between the use of performance-enhancing drugs and aggression and its subscales except the subscale of hostility. In fact, there was no significant relationship between the use of performance-enhancing drugs and hostility. According to the psychological effects of doping abuse, it can be mentioned that doping can have more dangerous psychological effects than physical ones since doping causes the destruction of the human spirit and occasions serious mental illnesses in the case of frequent engagement in it. Aggression is one of the most important illnesses of this category. Today, paying a visit to prisons in the country reveals that athletes, especially professional athletes who have won the championship constitute a major part of the prisoners. Athletic doping abusers become involved in false pride in the future years so that they feel they are to do whatever they fancy themselves and defeat any competitors. In their imaginations, they are reputed heroes that must be respected. In other words, individuals, groups, and the public have no right to disrespect and disregard them. Therefore, whenever this pride is threatened, they will do everything possible to defend for it and they might even turn to any sort of crime. Aggression in sport can cost the society a lot and its smoke will prevail the whole community. The results of this section of the study are consistent with those obtained by the studies conducted by Jensen (2006), Barthelme (2009), and Shabani Bahar et al. (2011). Shabani Bahar et al. (2011) showed that there is some difference in personality traits among different sports in a way that athletes of traditional sports are more extravert than Taekwondo and Kabaddi players. In addition, athletes of traditional sports displayed lower levels of anxiety and depression than others. Karan ancient were also less likely than others (Shabani Bahar et al, 2011).

#### 5. Conclusion

Based on the obtained results whether scientifically or empirically by the researcher in terms of the use of performance-enhancing drugs by athletes, doping abusers can be categorized into two groups, namely amateur and professional categories. Statistics show that the amateur category mostly use such drugs. Statistics show that amateur athletes abuse doping more than professional athletes. The drugs used by amateur athletes include oxymetholone, dianabol, dexamethasone, methyl testosterone, and nandrolone decanoate. The majority of amateur athletes automatically pass this stage and enter professional stage if they achieve success and victory. However, professional athletes use the following performance-enhancing drugs: testosterone, omnadren, sustanon, masteron, boldenone, somatotrophin, and ultimately fatal drug of insulin. Since the

harmful effects of performance-enhancing drugs influence the mental and behavioral states of sports champions and threaten the whole society, the attention and efforts of the authorities and the society to this issue are necessary and important.

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