

Analysis of Psychosocial Factors Promoting Doping In Sport: A Study for Promoting Preventive Measures to Curtail Adoption of Doping

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Abstract

International sports federations such as those for cycling, athletics, and soccer have conducted extensive anti-doping testing for years, but high-profile athletes continue to be implicated in steroid usage scandals that make headlines throughout the world. This study purposes to find the psychological aspects to curtail doping in adolescents. The objective of the study were to study the differences between different age groups (12-18, 18-25, 25-30 & above 30) of sport persons on psychosocial factors promoting doping and to study the difference between groups (12-18, 18-25, 25-30 & above 30) of sport persons on willingness to adopt doping. Random samples of 400 sport persons were selected for the study. In this study work, questionnaire on psychosocial factors was administered on 400 selected sport persons for the collection of data. To study the interactional effect of age and level of sports person in identifying different psychosocial factors promoting doping, selected sample belong to four different age groups (100 each) were selected for the study. Four age group division were 18 years and below (Adolescent), 18-25 years, 25-30 years and 30 years and above. Open ended Questionnaire for Identification of different factors involving favor or against of Criminalization of Doping was used. Mixed (Qualitative as well as quantitative) method was applied to obtain the set objectives this study. The reliability of the questionnaire was assessed by the Cronbach's Alpha reliability test using statistical package (V.22). Sports persons of more than 30 years of age having low doping insusceptibility covering willingness factor. Therefore, sports persons of more than 30 years of age were most affected by the willingness variables to adopt doping under some conditions of their favor when compared with any other age group of sports persons. It was found that was a significant difference among the age group of sport persons on Doping Insusceptibility Scale. It was concluded that there was no significant difference among level of participation on Doping Insusceptibility Scale. It was concluded that there was a significant difference among Age Group by level of performance interaction effect on Doping Insusceptibility Scale.

Keywords: doping, adoption, psychological factors, substance.

I. INTRODUCTION

As a result of Ben Johnson's gold-medal performance at the 1988 Seoul Olympics, which was removed from him because of the use of the steroid stanazolol, the world became keenly aware of the magnitude and benefits of doping in athletics. After the 1967 Munich

Games, the International Olympic Committee (IOC) medical panel produced a list of forbidden drugs and began testing competitors for anti-doping agents in the following year's Munich Games. At this point, it was evident that doping was effective and that, if left undiscovered, it would result in gold medals.

Previously disgraced East German scientists from the state-run doping programmes at Kreischa and Leipzig were now sought after by Asian countries, former Soviet bloc countries, and sports organisations around the world looking to raise their international profile and improve their reputation. Due to the widespread use of doping in Olympic sport, some have suggested that all records should be thrown out or put on hold until all kinds of doping have been identified and eliminated. As time went on, underground doping programmes extended from sport to sport under the guidance of modern-day pharmacists and sports medicine specialists, some of whom were immoral in their practises. In reaction to the alarming finding of enormous amounts of performance-enhancing drugs and accessories by French police during the 1998 Tour de France, the International Olympic Committee (IOC) hosted a World Conference on Doping in Sport in 1999. It was at this meeting that the World Anti-Doping Agency (WADA) was established as an independent worldwide organisation (WADA). Its purpose was to work independently of the International Olympic Committee (IOC), sporting organisations, and governments to lead the fight against doping in sport at the highest level.

In the United States, professional sports are not subject to major anti-doping procedures due to the existence of players' unions and collective bargaining agreements that barred the implementation of such comprehensive testing. They did, however, construct rudimentary anti-doping programmes, since the professional sports organisations realised the potential for doping to affect individuals and their sport as a result of their efforts. When Mark McGuire, an American baseball player, broke Roger Marris' home run record in 1998, it was discovered that he had been using a supplement containing a precursor to nandrolone, a steroid, prior to the mark-breaking performance. Steroid use in Major League Baseball was not prohibited at that time, and the league did not perceive steroids as a problem within the organisation. However, subsequent government

investigations and interviews with former players proved that steroid misuse was a widespread problem in the League, leading to the implementation of a limited steroid testing regime in the league.

Another noteworthy event occurred in 2003 that contributed to our knowledge of the institutional character of doping. A syringe containing tetrahydrogestrinone (THG), a "designer" steroid that was not previously known and was not on the current WADA prohibited list, was anonymously sent to a WADA-accredited laboratory in Los Angeles. Tetrahydrogestrinone (THG) is a "designer" steroid that was created specifically to avoid detection by modern anti-doping technologies. In the following years, several investigations led to the prosecution and subsequent conviction of individuals who ran a performance-enhancing programme for professional athletes out of the BALCO pharmacy in San Francisco.

A study conducted by Lee and colleagues (2016) examined the association between adverse childhood experiences (ACEs) and the mental health of approximately 3,300 Canadian Armed Forces (CAF) members following deployment. The findings revealed that those who had a history of ACEs were more likely to experience poor psychological and social consequences as a result of combat exposure. A final recent Canadian study (Afifi et al. 2016) revealed a number of individual and relationship-level characteristics that could be addressed for intervention strategies aimed at improving mental health in adults who have a history of abuse as a kid.

Ben Nichols (2016) attempted to take into consideration calls to draught legislation that would make it a criminal offence for an athlete to use performance-enhancing drugs (PED). Initial discussions included governance failures at key international sport federations in recent years, allegations of match rigging at the top level of tennis, as well as multiple drug scandals and the problems we are facing on a variety of fronts. He has provided a comprehensive analysis of the concept of

criminalising doping. The author has done an excellent job of describing marijuana as a sickness and the efforts being made around the world to eradicate it. It has been made plain on the blog that WADA does not seek to interfere with any government's sovereign authority to create laws for the benefit of its citizens, as this is the sole and exclusive prerogative of the government of the country in question. The sanction process for athletes, in our opinion, is a well-established process, and in fact, it was this very process that was universally accepted by the world of sport and governments at the World Conference on Doping in Sport in Johannesburg back in 2013, and it is this very process that we believe should be followed going forward. The article has left a question open for the organisations and member states to determine on their own, however it does recognise the athletes' freedom to compete in their respective sports.

Christian Keidel and Nicolas Klein are two of the most talented musicians in the world (2016) Reviewed Germany's new Anti-Doping Act is discussed, as well as its repercussions for athletes and whether prosecution is the most appropriate method of combating doping in sports, among other things. In addition, the page included an overview of the relevant sections of the German legal codes. According to the article, because the legal framework was perceived to have failed in properly addressing the issue of doping in sport (primarily because the undertaking of doping as a whole was not subject to criminal liability), the government introduced Germany's first Anti-Doping Act (the "Act") in 2014, which became effective on January 1, 2016. Researchers, sportsmen, and the German Olympic Sports Confederation have all expressed their displeasure with the Act (DOSB). Most significantly, the law raises concerns about its compliance with German constitutional law, as well as with German and European data protection and privacy legislation. It could also have implications for other parts of general sports law, notably in light of its rule on sports arbitration, which could have ramifications.

Psychosocial Aspects- The term "psychosocial" refers to or involves both psychic and social aspects of one's personality. It is the process of a person's psychological growth as a result of their contact with their social environment. Other psychosocial risk variables include one's personality and the presence of psychiatric features as well as relationships with family and friends, elderly, and other factors in one's surroundings that can either raise or diminish risk factors (protective factors). Psycho-social characteristics may aid in the understanding of some of the reasons that contribute to a sportsperson's interest in doping. In order to understand how basic principles of learning and conditioning can be used to modify drug-taking behaviour (Hawkins et al., 1992; IOM, 1994a, b; IOM, 1996a), cognitive and behavioural research must be conducted. Only then can we place the same reasons that led adolescent athletes to dope in the same context. Emotional instability, a desire for recognition, and the influence of peers in sports can all contribute to the use of performance-enhancing drugs.

Chronic stress, inadequate guidance, or a bad athlete-coach connection, in addition to senior or peer usage of or attitude toward doping, may all play a role in the use of performance-enhancing substances. Observers are expected to mimic attractive TV or film characters who smoke or drink, according to social learning theory, resulting in viewers having more favourable attitudes toward drugs and boosting their usage of them (IOM, 1989). In a similar vein, attitudes about doping are impacted by close or in contact athletes, as well as by high achiever athletes who train on the ground and may give a false picture to new athletes about what is acceptable in the sport. Young athletes may be perplexed by phrases such as nutritional support and supplement uploading, which might be confusing to them. Living a stressful life has long been recognised as a significant psychosocial influence (Cheng T.A Andrew et al., 2000). This can also be related to doping when an athlete is exposed to some type of stress associated with their sport's performance or the environment in which they compete.

Objectives

1. To study the differences between different age groups (12-18, 18-25, 25-30 & above 30) of sport persons on psychosocial factors promoting doping.
2. To study the difference between groups (12-18, 18-25, 25-30 & above 30) of sport persons on willingness to adopt doping

Hypotheses

1. There is no significance differences between different age groups (12-18, 18-25, 25-30 & above 30) of sport persons on psychosocial factors promoting doping.
2. There is no significance difference between groups (12-18, 18-25, 25-30 & above 30) of sport persons on willingness to adopt doping.

II. METHODOLOGY

Mixed (Qualitative as well as quantitative) method was adopted in this project.

A. Universe of the Study

The study intends to focus on Sports Person from all over India. Universe of the study comprises people in different states in India viz. Punjab, J&K, Haryana, Madhya Pradesh, Uttar Pradesh, Delhi, Karnataka, Kerala, Rajasthan, West Bengal, Assam, Bihar and Manipur. The level of Participation has been spread from inter school to international level.

B. Sample Size & Specifications

Random samples of 400 sport persons were selected for the study. In this project work, questionnaire on psychosocial factors was administered on 400 selected sport persons for the collection of data. To study the interactional effect of age and level of sports person in identifying different psychosocial factors promoting doping, selected sample belong to four different age groups (100 each) were selected for the study. Age group division were as follow

- a. 18 years and below (Adolescent)
- b. 18-25 years
- c. 25- 30 years
- d. 30 years and above.

C. Data Collection (Tools & Administration)

Following tool employed to assess the extent level of the variables included in this study.

1. Open Ended and Categorical- Yes/No Questionnaire for Identification of different factors involving favor or against of Criminalization of Doping and In-House Faults - Investigator also added-on open ended questionnaire prepared after considering experts. This questionnaire consists of views on favoring the criminalization and in-house faults and tackling of Banned substances in sports and other situations. Also attempted to reason out the causes and solutions of Doping and in-house faults. The value analysis was made through the role and importance of various organizations and personals involving medicine practitioners and shopkeepers and other stakeholders. Other examining factors involved in the investigation were Peer pressure; Over excitement; Adjustment and opinions and comments to highlight that can avoid the use of prohibited drugs for performance enhancement. The items in the questionnaire were divided into several areas, which are required to be responded in "Yes" or "No" with the purpose to know the contributing factors. The score system were applied to identify the new psychosocial factors promoting doping and willingness to adopt doping based on certain predetermined psychosocial factors. All handlers were approached in person and informed about the study. Efficient procedure was followed to in the administration of the tools. As the tool is exclusively limited to subjects with the purpose to identify the factors that can promote doping and willingness to adopt doping based on certain predetermined psychosocial factors also. In the questionnaire investigator have provided enough motivational psychosocial terms to motivate the sport persons especially the adolescent athletes so that they could come up with the factors which they view as could be

factor. Questionnaire was also open ended with the purpose to catch the hints that would be new or could not be mentioned by the investigator. Investigator was keen for an exclusive open ended psychosocial questionnaire for the sport persons in relation with identifying factors to dope in such a manner that they could come forward to highlight the factors that promote to adopt doping and keeping the further objectives of the study.

Mixed (Qualitative as well as quantitative) method was applied to obtain the set objectives this study. The reliability of the questionnaire was assessed by the Cronbach’s Alpha reliability test using statistical package (V.22). Item Description of the Scale Highlighting east item Statistical value if deleted was also scaled out to rule out the possibility of unreliable items from the scale. A Shapiro-Wilk’s test (Shapiro &Wilk, 1995; Razali& Wah,2011) and a visual inspection of their histograms, Normal Q-Q Plots & box Plots were assessed to check the normality of the scale for confident implementation of test. ANOVA and Chi square testes were implemented to analyze data along with descriptive statistics and Graphical representation of scores. SPSS v.22 was used for the statistical purposes with .05 as sig. level.

III. RESULT

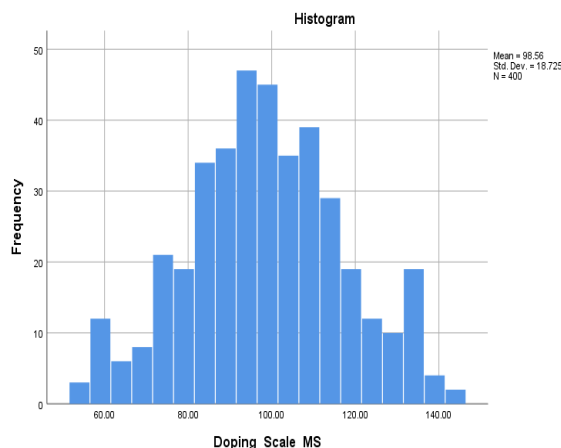
The reliability statistic using statistical package for social science (SPSS) was used with the help of Cronbach’s Alpha

Table I. Cronbach’s Statistical Score Of Reliability Test

Reliability Statistics	
Cronbach's Alpha	N of Items
.823	40

From the above table it was detected that Cronbach’s Alpha statistical value of 40 items of the questionnaire was 82.3%. This value of the Cronbach’s Alpha depicts that means information is credible. A value higher that 50% is considered sufficient and in this case it is 82%.

Fig. 1. Histogram Of Test Of Normalcy



Doping Insusceptibility Scale’s descriptive analysis based on Skewness for Normality has been observed that make us statistically understand normality of each item of the scale on the basis of skewness value and Std. Error in order to keep that item in the scale or omit it. The descriptive analysis table indicate if particular item to be viewed on skewness and other related statistical values, than how it individually depicting normalcy. The items found with non favorable statistical score were deleted. The following items with skewness falling out the range of +1.96 to -1.96 were deleted; Respecting individuals who take doping agents (-.829, std error=.122), Satisfied with money spent (-1.007, std error=.122), I respect individuals who take dope agents (.962, std error=.122), Satisfied with my continuing performance enhancement after the use of doping (-1.007, std error=.122), Understanding benefit options (-.672, std error=.122), Satisfied with my use of doping (.903, std error=.122), Been provided proper level of knowledge about doping procedures by Anti-Doping Organization (.914, std error=.122), Been provided proper level of knowledge about doping procedures by Sports Organizations (.248, std error=.122), Been provided proper level of knowledge about doping procedures by Tournament Organizers (.248, std error=.122).

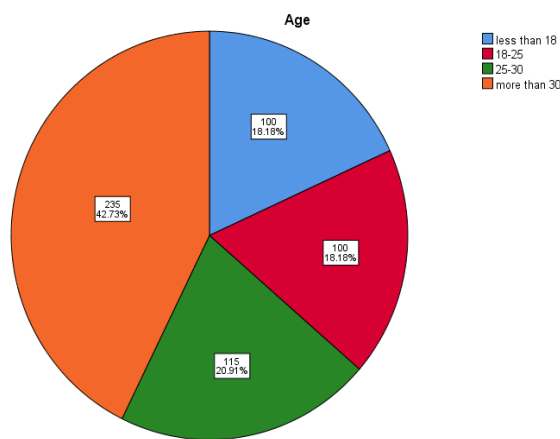


Fig. 2. Pie Diagram Of Age Division Of The Respondents Participated In The Investigation

Figure presented above highlighted the percentage value of the respondents participated in the study in terms of age group. 18 percent were from the age category of less than 18 years of age which study also delimited as Adolescents. Almost of the same numeric expression the subjects belong to the age category of 18 to 25 years. 20 percent subject space was covered by the age category of 25 to 30 years of respondents. The majority of the subjects were under the age category of more than 30 years (42%). This majority is because of the involvement of subjects from the profession of Coaching, Working in Sports and Non sports Organization and Legal Experts who were found to more than 30 years in age.

Table II. Descriptive States Of Psychosocial Aspects

Psychosocial_factors_01					
	N	Mean	Std. Deviation	Minimum	Maximum
less than 18	100	62.2500	10.00038	45.00	85.00
18-25	100	54.4200	7.68335	43.00	74.00
25-30	100	49.2500	10.19643	23.00	70.00
more than 30	100	50.9800	6.12328	40.00	68.00

Shows the descriptive statistics of the Psychosocial factors of Doping Insusceptibility Scale. An overview of the above table depicts that sports persons of less than 18 years of age with mean score of 62.25 having high doping insusceptibility covering psychosocial factor. Therefore sports persons of less than 18 years of age which are also delimited as Adolescent in this research work are least affected by the psychological variables to adopt doping if compared with any other age group of sports persons. With the mean score of 54.42 sports persons of 18- 25 years of age it is also indicated that this group having low doping insusceptibility covering psychosocial factor. Therefore sports persons of 18 to 25 years of age are most affected by the psychological variables to adopt doping if compared with any other age group of sports persons.

Table III. Anova Table

Psychosocial_factors_01					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9971.930	3	3323.977	44.245	.000
Within Groups	29749.820	396	75.126		
Total	39721.750	399			

It was found that a significant difference among the age group of sport persons on psychosocial factors promoting doping with 44.245 as the statistical value of F with the significance of .000. Therefore to verify the further effects and to know which groups among the selected group were significantly different Post Hock test was recommended.

Table IV. Test Of Homogeneity

Levene				
	Statistic	df1	df2	Sig.
Psychosocial_fa Based on Mean	8.428	3	396	.083

It is highlighted that the test Levene Statistical (3, 396) with its significance of .083 showed that the assumption of quality variance is met with its statistical value of 8.428.

Table V. Post Hock Test Of Scheffe

Dependent Variable: Psychosocial_factors_01
Scheffe

(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.
less than 18	18-25	7.83000*	1.22577	.000
	25-30	13.00000*	1.22577	.000
	more than 30	11.27000*	1.22577	.000
18-25	less than 18	-7.83000*	1.22577	.000
	25-30	5.17000*	1.22577	.001
	more than 30	3.44000	1.22577	.050
25-30	less than 18	-13.00000*	1.22577	.000
	18-25	-5.17000*	1.22577	.001
	more than 30	-1.73000	1.22577	.575
more than 30	less than 18	-11.27000*	1.22577	.000
	18-25	-3.44000	1.22577	.050
	25-30	1.73000	1.22577	.575

*. The mean difference is significant at the 0.05 level.

There was a significant difference among the age group of sport persons on psychosocial factors promoting doping, $F(3,396)=44.245$, $p<.000$. Post hock testing revealed significant differences between pairs of age group of sports persons with 13-18 years i.e Adolescents (Md=7.83 , sig:;.000), 18-25 years (Md=13.00,sig:;.000) , 25-30 years (Md=11.27, sig:;.000) and above 30 years (Md=11.27,sig:;.000).

Table VI. Descriptive States Of Willingness To Adopt Doping

Willingness_to_AdoptDopping_02					
	N	Mean	Std. Deviation	Minimu m	Maximu m
less than 18	100	48.0400	12.37129	23.00	65.00
18-25	100	47.5300	8.10344	42.00	64.00

25-30	100	41.1400	12.56982	21.00	61.00
more than 30	100	40.4600	14.25129	20.00	64.00
Total	400	44.2925	12.49730	20.00	65.00

An overview of the above table depicts that sports persons of less than 18 years of age with mean score of 48.04 having high doping insusceptibility covering willingness factor. Therefore sports persons of less than 18 years of age which are also delimited as Adolescents in this research work are least interested to adopt doping.. With the mean score of 40.46 sports persons of more than 30 years of age it is found that this group having low doping insusceptibility covering willingness factor. Therefore sports persons of more than 30 years of age were most affected by the willingness variables to adopt doping under some conditions of their favor when compared with any other age group of sports persons.

Table VII. Anova Table

Willingness_to_AdoptDopping_02					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4915.147	3	1638.382	11.303	.000
Within Groups	57401.630	396	144.954		
Total	62316.778	399			

It found that there was a significant difference among the age group of sport persons on willingness to adopt doping with 11.3 as the statistical value of F with the significance of .000. Therefore to verify the further effects and to know which groups among the selected group were significantly different Post Hock test was recommended.

Table VIII. Test Of Homogeneity

Willingness_to_AdoptDopping_02					
	Levene Statistic	df1	df2	Sig.	
Based on Mean	16.050	3	396	.063	

It was highlighted that the test Levene Statistical (3, 396) with its significance of .063

showed that the assumption of quality variance is met with its statistical value of 16.050.

Table IX. Post Hock Test Of Scheffe

Dependent Variable:
Willingness_to_AdoptDopping_02
Scheffe

(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.
	18-25	.51000	1.70267	.993
less than 18	25-30	6.90000*	1.70267	.001
	more than 30	7.58000*	1.70267	.000
	less than 18	-.51000	1.70267	.993
18-25	25-30	6.39000*	1.70267	.003
	more than 30	7.07000*	1.70267	.001
	less than 18	-6.90000*	1.70267	.001
25-30	18-25	-6.39000*	1.70267	.003
	more than 30	.68000	1.70267	.984
	less than 18	-7.58000*	1.70267	.000
more than 30	18-25	-7.07000*	1.70267	.001
	25-30	-.68000	1.70267	.984

*. The mean difference is significant at the 0.05 level.

There was a significant difference among the age group of sport persons on willingness factors promoting doping, $F(3,396)=11.303$, $p<.000$. Post hock testing revealed significant differences between pairs of age group of sports persons of 13-18 years i.e Adolescent ($Md=7.83$, $sig:.001$) different from 25-30 years ($Md=6.900$, $sig:.001$) and above 30 years ($Md=7.58$, $sig:.000$).

IV. CONCLUSION

In terms of skewness and kurtosis, it has been determined that our example data is slightly skewed and kurtotic across all categories, but that it does not deviate significantly from the normal distribution. We can presume that our data is approximately normally distributed based on the results of the Skewness and Normalcy tests that were conducted prior to

data processing and subsequent interpretations. Value of the Cronbach's Alpha depicted that means information is credible for the valid score of 550, which has been stated as 100 percent response and '0' Zero cases required to be excluded.

Sports persons of less than 18 years of age were least affected by the psychological variables to adopt doping. Sports persons of 18- 25 years of age had low doping insusceptibility.

There was a significant difference among the age group of sport persons on psychosocial factors promoting doping. It is concluded that the willing factors to adopt doping of Doping Insusceptibility Scale sports persons of less than 18 years of age had high doping insusceptibility covering willingness factor. Therefore sports persons of less than 18 years of age were least interested to adopt doping or it can also be explained as sports persons of less than 18 years of age were least affected by the factors that create wiliness to adopt doping if compared with any other age group of sports persons.

Sports persons of more than 30 years of age having low doping insusceptibility covering willingness factor. Therefore, sports persons of more than 30 years of age were most affected by the willingness variables to adopt doping under some conditions of their favor when compared with any other age group of sports persons. It is concluded that was a significant difference among the age group of sport persons on Doping Insusceptibility Scale. It is concluded that there was no significant difference among level of participation on Doping Insusceptibility Scale. It is concluded that there was a significant difference among Age Group by level of performance interaction effect on Doping Insusceptibility Scale. A significant effect of Age Group on Doping Insusceptibility Scale is concluded as Adolescents had higher score that any other age group whereas the age group of above 30 years were least in scale.

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