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Examining Conceptual Model of the Relationships between Sports Motivation, Doping Attitudes and Doping Behavior in Professional Athletes

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ABSTRACT

So far, efforts to prevent PED use focus on detection and punishment, whereas research on the psychosocial factors associating with doping behavior has only recently started to develop**.** The purpose of this research is testing conceptual model of the relationship between sport motivation, doping attitudes and behavior in professional athletes in team sports of Iran. For selecting our sample we use available random sampling, so 200 participants of team professional athletes including 114 men and 86 women on the field of Volleyball, Basketball, Football, Handball, Futsal, completed following questionnaires in a voluntary manner: sport motivation scale-6, Performance Enhancement Attitude Scale (PEAS); and Doping behavior Questionnaire. Structural equation modeling was used for studying the conceptual model and LISREL software was used for analyzing the data. Structural equation modeling shows there is significant relationship between doping attitudes and doping behavior and also there is significant relationship between a motivation and doping attitudes. It is recommended that a qualified study develop to investigate the risk in decision making for drug use in professional athletes.
KEY WORDS: Sport Motivation, Doping Attitude, Doping Behavior, Professional Athletes

INTRODUCTION

The use of performance-enhancing drugs and the methods to improve physical performance in athletes is as old as the history of the sport and has been a feature of competitive sports. Although the use of PEDs is prohibited by the World Anti-Doping Agency (WADA) and many professional sports associations around the world, athletes continue to engage in this practice. So far, efforts to prevent PED use, focus on detection and punishment, whereas research on the psychosocial factors associated with doping behavior has only recently started to develop(1).Early studies assessed the role of attitudes in the use of anabolic steroids among athletes (2),Nevertheless, while the aforementioned studies have addressed the role of beliefs and attitudes towards doping use, other variables, such as motivation, achievement goals (3), and sportspersonship orientations (4,5), have not been studied extensively(1).

Motivations in sport are identified as factors that may be effective on doping behavior (6). Donahue, et al. (6) in their study designed a model in which intrinsic and extrinsic motivation is associated to the use of PEDs through the mediating effect of sportspersonship. Results of motivational model show that intrinsic motivation and sportspersonship orientations may prevent athletes from engaging in PED abuse. Vâjială, et al. (7) in their research discovered significant relationship between some types of motivation, mood states of athletes and temptation to use doping substances. Barkoukis, et al. (1) found that there is a significant relationship between the different motivational profiles, the use of prohibited substances and intent in the future. In Manouchehri and Tojari's study (8), direct impact of doping attitudes on doping behavior, doping belief on doping behavior and doping attitudes were significant. Importance of sports motivation in many sports behavior encouraged researcher to study the relationship between sports motivation and doping behavior and to investigate the relationship between sport motivation and doping attitude in professional athletes in team sports of Iran.

METHOD

Participants

The population of this research consists of all professional athletes in team sports (for both men and women) who have competed at least 5 years in volleyball, basketball, futsal, handball and football. The sample consisted of 200 participants who were randomly selected among available sports. They included 114 men and

[1] Designed research
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86women. The average of age and standard deviation for the men were 22.51 and 4 respectively and those indicators for the women were 23.31, 3.56 respectively that both of the groups completed questionnaires in voluntary manner.

Measurements instrument

Sport Motivation Scale developed by Mallett, et al. (9): Motivation is an internal factor that stimulates individual's behavior and leads to a specific direction and coordinates it. Motivation is turning to specific activity and continued it; that may be a physical activity or mental–social activity that is measured by sport motivation scale (9) with 7item Likert scale. This scale consists of 24 statements and six subscales that include:

Amotivation: This means lack of purpose and intentionality in one's action.

External regulation: which refers to doing actions for obtain rewards or avoid blame by others.

Introjected regulation: This refers to behaviors that are strengthened through internal pressures such as guilt or anxiety.

Identified regulation: that is when person emphasize on behavior and give worth to that behavior.

Integrated regulation: this represents the most independent form of extrinsic motivation that happens when there is heterogeneity between behavior rules and needs, goals and personal confirmed values which are part of that person.

Intrinsic motivation: this means engaging in an activity for itself and for the pleasure and satisfaction derived from participation.

Four statements were used for each subscales and 7 item Likert scale for responding to each statement that range from: completely disagree with degree (1) and completely agrees with the degree (7).The English form of the questionnaire of Sport Motivation Scale was translated into Persian by specialist and then scale of validity was confirmed by experts in that field. In research by Mallett, et al. (9) reliability of questionnaires by counting reliability of Cronbach's alpha coefficient was obtained up to 0.70 In this research, Cronbach's alpha coefficient for sport motivation obtain 0.80.

Performance enhancement attitude scale (10): doping attitudes defined as the willingness of a person to the use of banned performance-enhancing substances. This scale is to measure athlete's general attitudes to doping. The PEAS consists of 17 attitude statements measured on a six point Likert-type scale ranging from strongly disagree (1) to strongly agree (6). After translating the English version of performance enhancement attitude scale to the Persian, scale validity was confirmed by experts in this field. In study by Petroczi (10), Reliability and validity of scale with Cronbach's alpha was up to 0.70. In this study, Cronbach's alpha coefficient for the doping attitudes scale obtained 0.80that after removal of statements 4, 8 and 9, this ratio increased to 0.82.

Doping Behavior Questionnaire (11): the aim of Doping Behavior is a response from an athlete to an external action or action relating to doping. Doping behavior was measured by the two self-reported scale of "current use" and "previous experience of performance-enhancing substances". And the participants were asked to choose one of the options Yes (1), Yes but only for medical conditions (2), NO (3), tend to not answering (4). The first English version of the questionnaire of doping behavior was translated into Persian by specialist fluent in English and Persian and then scale validity was confirmed by experts in the field. In research which developed by Petroczi (11), Reliability and validity have been reported 0.94 in this study, Cronbach's alpha coefficient for the doping behavior scale obtain 0.81.

Statistical Methods

Statistical Methods are determined with due to the type of research, the research objectives and hypotheses. Mean, frequency tables, and standard deviation were used to describe the variables in descriptive statistics; and structural equation modeling is used in inferential statistics to examine conceptual model; and LISREL software was used for data analysis.

RESULTS

Results showed that 162participants among the 200 participant (114 were male and 86 were female) believed that their success in future depends on their success in sports but 38 women did not believe that their success in future depends on their success in sports.

Mean and standard deviations for the variables are shown in table 1.

As we observed the mean of doping attitude is less than the number 4, this means there is a relatively little doping attitude in athletes. Also mean of doping behavior shows that athletes do behaviors which have little tendency to doping. Moreover, mean of sport motivation shows that athlete have sport motivation.

Table 2 shows mean and standard deviation for dimensions of sport motivation.

According to this issue that the questions of Intrinsic motivation, Introjected regulation, identified regulation, external regulation, Integrated regulation are designed directly, the results shows relatively good

condition, because in the range of 7 item Likert, have arelativemeanmorethan4;butaccording to this issue that questions of amotivation are designed reversely, results show that athletes have little amotivation. Figure 2shows The main model of the relationship between sport motivation and doping attitude and doping behavior, and figure 3is secondary model of the research that shows the relationship between subscales of motivation sport including Intrinsic motivation, Introjected regulation, identified regulation, external regulation, Integrated regulation and amotivation with doping attitudes and doping behavior that have been examined by using structural equation modeling.

The results showed that the hypothesis of impact of doping attitudes on doping behavior was significant and hypothesis of impact of sport motivation on doping attitudes and doping behavior was not significant (Figure 2).

The results also showed that hypothesis of impact of intrinsic motivation, Introjected regulation, identified regulation, external regulation, and integrated regulation on doping attitudes and doping behavior and amotivation on doping behavior was not significant. Whereas hypothesis of impact of amotivation on doping attitudes and doping behavior was significant (Figure 3).

According to the results from measurement of main model in the research (Figure 2), firstly the software output show relative suitability of goodness of fit in structural model to test. Then χ^2 to ***df*** ratio is slightly more than 3; because the sample size is high. The term RMSEA=0.103 indicated relative unsuitability of goodness of fit in structural model.

However, the amount of GFI, AGFI and NFI were 0.83, 0.86 and 0.91 respectively, which indicates a relatively goodness of fit in model. The results relating to measurement of secondary model in the research (Figure3) showed that firstly software output indicating relative suitability of goodness of fit in structural model to test the hypotheses and then χ^2 to ***df*** ratio is less than 3.

Also the term RMSEA=0.077 indicated the relative suitability of goodness of fit in structural model. The amount of GFI, AGFI and NFI are 0.89, 0.91 and0.93respectively, which indicates a goodness of it in model. Results of structural equation modeling showed that the relationship between sport motivation and doping attitudes and doping behavior was not significant.

The present findings are inconsistent with following researcher's finding: the designed model in study by Donahue et al (6) which was based on predicting doping behavior through motivational orientation; a research by Vâjială, et al. (7)who study the relationship between motivation and temptation to the use doping in high performance sports and they found the significant relationship between certain types of motivation, mood states of athletes and temptation to use doping substances; Barkoukis, et al. (1) that found a significant relationship between the different motivational profiles and the use of prohibited substances and intentionality for the future; findings by Judge et al (12) that investigated the attitudes and perceptions of track and field athletes toward the use of performance-enhancing drug and found that gender is not significant variance in intent but the theory of planned behavior constructs, attitude strength, moral conviction and interaction of attitude and moral conviction predict significant variance in intent for PED use; and finally study which developed by Ehrnborg and Rosen (13) that indicated motivation are improving for doping, maintaining physical functioning, coping with the social and psychological pressures and for effort to social and psychological goals and financial interests. Results of structural equation modeling showed that the relationship between intrinsic motivation, extrinsic motivation, external regulation, Introjected regulation, identified regulation, integrated regulation and doping behavior and doping attitude was not significant and the relationship between amotivation and doping behavior was not significant too.

The findings of the present research are not consistent with findings of Barkoukis, et al. (1). Barkoukis, et al. (1) studied the motivational and sportspersonship profiles of elite athletes due to doping behavior and found out athlete who has external motivation to athlete who has intrinsic motivation, showed significant high scores in past use; athlete with internal motivation are those who show positive profile; for example they reported significant lower scores on past doping use and intention to future uses; and compared with those intrinsic and extrinsic motivated athletes who are place in amotivation group were more likely to have used in the pastor they have stronger intention to use doping in the future. The present results are not congruent with results from research by Vâjială, et al. (7) that suggest athletes with extrinsic motivation who have the modes of anger more than the average values for exercise and athletes with intrinsic motivation who have stress and depression more than average values for using banned substances, are more likely tempted than other athletes ; and it is not consistent with finding from Vallerand and Bissonnette that in their findings (14) found that role of amotivation in behavioral persistence is considerable and amotivation was important predictor of behavior in this study. And we should say the present results were not the same as the results from Finding of Chantal, et al. (15) that study the social image of anabolic steroid users through motivation, sportspersonship orientation and aggression; and the results from multivariate analysis of covariance showed that, in comparison with non-using protagonist, AS-using athlete showed less motivation (that is, sports participation was based on predominant feeling of pressure to obtain external rewards or avoid punishment) and they exhibited a weaker sportspersonship orientation. And finally present finding is not consistent with Ptroczi, et al. (16) who suggest

that a variety of factors such as financial success, loss, fear of failure and being in edge of competition can be effective in athletes' decisions towards doping.

Results of structural equation modeling showed that the relation between amotivation and doping attitudes was significant. The findings of the present study is consistent with finding from Judge, et al. (12) that investigated the attitudes and perceptions of track and field athletes toward the use of performance-enhancing drug and found that gender is not significant variance in intent but the theory of planned behavior constructs, attitude strength, moral conviction and interaction of attitude and moral conviction predict significant variance in intent for PED use. Thus it can be concluded that amotivation is an explanatory factor to doping attitude in athlete. Moreover the results of structural equation modeling showed that there were significant correlations between doping attitudes and doping behavior.

The present findings are consistent with following research: with finding of the research by Judge, et al. (17) based on the final model in which important predictors of intent were attitudes, injunctive norms, attitude strength, moral conviction and attitude in interaction with the moral conviction. And it should be said attitudes strength, moral conviction are important considerations in understanding the use of performance-enhancing drugs; with findings of Petroczi (10) that his studies showed a significant association between doping attitudes and doping behavior; with Vajială, et al. (7) that their results showed a significant correlation between a variety of motivation in expression of mood state and temptations to doping substances and also Gucciardi, Jalleh and Donovan (18) who show analysis of structural equation modeling of social desirability to partially mediate the association between doping attitudes and susceptibility to performed doping. Whereas regression analyzes indicated that there is strong support for the presence of a moderation effect of social desirability. Goulet, et al. (19) found that there is a significant relationship between using performance-enhancing substance and intention to use and this show that intention to use performance-enhancing can predict clearly using of performance-enhancing, and also was shown a positive relationship between attitude and intentionality for using performance-enhancing drugs. Petroczi et al (20) observed generally the discrepancy in the relationship between doping belief and definitive attitudes of doping and among groups with the scale of the control which were left not affected. And also they found responses of the Questionnaire showed a constant pattern with self-reported doping use. In the following former studies, the results of this study could provide further evidence for both self-reported ones base on social perception and behavior that are affected by some forms of unilateral responses. Atkinson (21) who analyze attitude in participants against the performance-enhancing substances, found there were no significant statistical differences among the different groups. And this research is congruent with result from the research by Manouchehri and Tojari (8) that show the hypotheses of direct effect of doping attitude on doping behavior, doping beliefs on doping attitudes and doping behavior, sport motivation on doping behavior was significant. On the other hand, the findings of the present study are not inconsistent with findings from the Uvacsek, et al. (22) base on this issue that the user of performance-enhancing drugs show markedly softer attitude to doping. And it can be inferred that doping behavior and doping attitude has inverse relation. Thus, according to the significant coefficient and analysis of structural equation of this study it can be concluded that doping attitudes on doping behavior has a significant impact and changes of doping attitudes can explain changes in doping behavior in athletes.

Table 1: Mean and standard deviations for the variables

Variable	SD	M
ATT	0.87464	2.6402
MOT	0.85774	4.3225
BEH	0.91486	0.5850

Table 2: sport motivation results

Variable	Abbreviation	Standard Deviation	Mean
Intrinsic motivation	IM	1.33938	5.1145
Integrated regulation	IR	1.38900	4.7529
identified regulation	IDR	1.16118	4.9747
external regulation	ER	1.48044	4.0842
Amotivation	AM	1.29774	2.3735
Interjected regulation	INR	1.30697	4.7138

Figure 1: conceptual model of the research

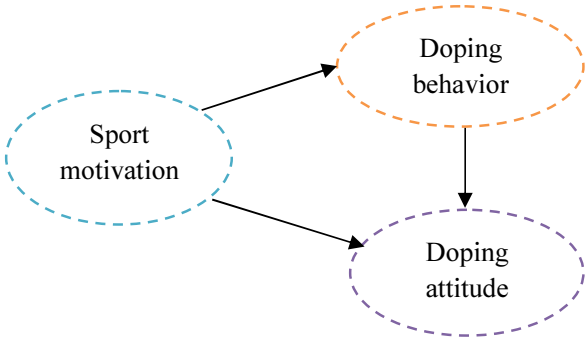
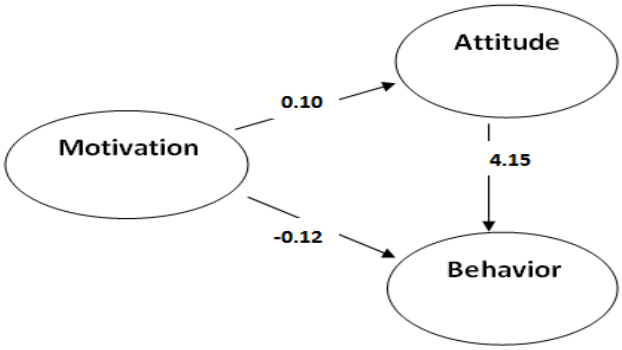
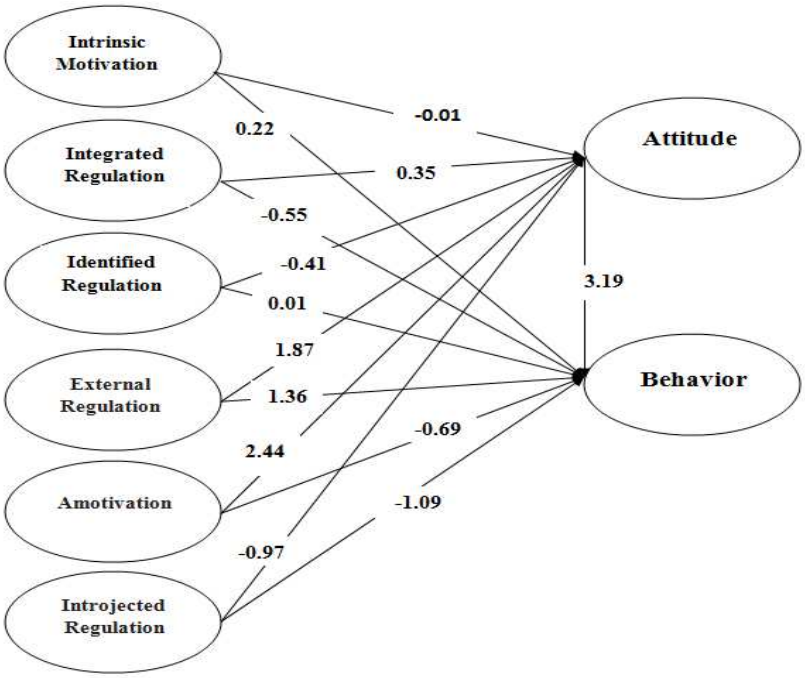


Figure 2: the main model in significant coefficients status



chi-square=643.90, df=206, p-value=0.00000, RMSEA=0.103

Figure3: the secondary model in significant coefficient status"



chi-square=1388.47, df=637, p-value=0.00000, RMSEA=0.077

CONCLUSION

The purpose of this study was testing conceptual model of the relationship between sport motivation, doping attitudes and doping behavior in professional athletes in team sport of Iran, and the results of structural equation modeling showed that the relationship between sport motivation, doping attitudes and doping behavior was not significant while relationship between doping attitudes and doping behavior was significant. According to space limitations for collecting the data of this research, it is suggested that future research considered broader area in society of Iran and also recommended to do an investigation for paying into the qualified study of the risk in decision for drug use in athletes.

REFERENCES

1. Barkoukis V, Lazuras L, Tsorbatzoudis H, Rodafinos A (2011),Psychology of Sport and Exercise 12 (2011) 205e212.
2. Anshel, M. H., & Russell, K. G. (1997). Journal of Drug Education, 27, 121e145.
3. Elliot, a (1997). In M, maehr, & P. Pintrich (Eds), Advances in motivation and achievement, Vol, 10 (pp. 143e 179). london: JAI Press.
4. Kavussanu, M., & Roberts, G. C. (2001). Journal of Sport & Exercise Psychology, 23, 37e54.
5. Vallerand, R. J., Briere, N. M., Blanchard, C., & Provencher, P. (1997). Journal of Sport and Exercise Psychology, 19, 197-206.
6. Donahue EG, Miquelon P, Valois P, Goulet C, Buist A, Vallerand RJ. J Sport Exerc Psychol 2006: 28: 511–520.
7. Vâjială G. and Colleagues (2010) , Ovidius University Annals, Series Physical Education and sport / Science, Movement and Health , Vol 10 issue 2, 2010,Romania.
8. Manouchehri, J., Tojari, F. (2013), Euro. J. Exp. Bio., 2013, 3(2):175-182.
9. Mallett,C., Kawabata,M., Newcombe,P. Psychology of Sport and Exercise 8 (2007) 622–631
10. Petróczi A (2002), Published Doctor of Philosophy dissertation, University of Northern Colorado, USA.
11. Petróczi A., (2007), J of Substance Abuse Treatment, Prevention, and Policy, 2007, 2:34 doi: 10.1186/1747-597X-2-34.
12. Judge, L.W, Craig, B, Bellar, D, & Gilreath, E. (2010). ICHPERD-SD journal of research 5(2), 54-61.
13. Ehrnborg and Rosen (2009), Growth Hormone & IGF research 19: 285-287.
14. Vallerand, R.J. & Bissonnette, R. (1992). *Journal of Personality,* 60**,** 599-620.
15. Chantal,Y., Soubranne,R., Brunel. (2007), Scand J Med Sci Sports 2009: 19: 228–234
16. Petroczi A, Uvacsek M, Nepusz T, Naughton D: Initiator or consequence: the relationship between perceived use of doping by others and behaviour. J Sci Med Sport 2010, 12:e1-e232.
17. Judge, L.W., Bellar, D, Petersen, J., Lutz, R., Gilreath, E, Simon, L., Judge,M. Performance Enhancement & Health *1 (2012) 75– 82*.
18. Gucciardi, Jalleh and Donovan (2010), Psychology of Sport and Exercise 11 (2010) 479e486.
19. Goulet,C,. Valois,P,. Buist, A, Cote,M. Clin J Sport Med 2010; 20:243–248.
20. Petro´czi A, Uvacsek M, Nepusz T, Deshmukh N, Shah I, et al. (2011), *PLoS ONE 6(4): e18804. doi:10.1371/journal.pone.0018804*
21. Atkinson R. W., MS Thesis, Faculty of Health and Physical Education, (Eastern New Mexico, 2011).
22. Uvacsek, M., Nepusz, T., Naughton, D. P., Mazanov, J., Ranky, M. Zs., Petroczi, A., Journal of Medicine & Science in Sports Volume 21, Issue 2, 2011**,** 224–234.