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The Comparison of Sport Motivation Factors Regarding Various Variables; Based on Self-Determination Theory

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Abstract
The main purpose of the present research was to compare sport motivation factors between boys and girls in different sports and levels of sports activity at Tehran University. This is a descriptive study and the statistical population consisted of all the students in Tehran University among whom 241 filled in the sport motivation scale. The sport motivation scale includes 6 motivation subscales based on self-determination theory. Since statistical data were parametric, İndependent T-test and One Way ANOVA were applied. The research results revealed that there is no significant difference between the groups of boys and girls associated with their type of sports motivation. The comparison of team and individual sports revealed that there is a significant difference related to extrinsic motivation subscale and Integrated Regulation between these two groups. The comparison of motivational factors of elementary, semi-professional, and professional athletes revealed significant differences in all the subscales except amotivation. Taking into account the fact that students constitute a great bulk of society, paying attention to the type of their sports motivation is of high significance and considerable measures have to be taken for them to endure their activities.

Keywords: Motivation, Sport, Gender, İndividual sport, Team sport

Introduction

Researchers believe that if a society encourages its people to do physical exercise, in fact, it has contributed to its own self-esteem and physical and spiritual health as well (Haverkamp et al., 2022). Although extensive advertisements have been done, the participation rate in regular activities in the U.S has decreased to the point that only about 50 % of people take part in regular activities (Health and Committee, 2016). Changes in diet and people's consumption of high content calories, as well as saturated fat, along with avoiding doing regular sport have caused physical and psychological disease to increase (for disease Control and Prevention Centers(CDC)). Avoiding doing regular sport and following diet may lead to some diseases such as cancer, Diabetes type 2, as well as some cardiovascular diseases (Kraus et al., 2019; Reilly and Kelly, 2011). On the other side, the rate of participation and underlying reasons for sport participation varies according to age and gender (Gómez-Cabello et al., 2014).

Epidemiological evidences indicate that participation rate in physical activities has considerably descending order from high school to university which is not sufficient to preserve psychological and physical health (Wanner et al., 2016). The rate of weight gained by students in university elaborates on the significance of this period taking into account participation in physical activities (Kilpatrick et al., 2005). Some participate in physical activities to enjoy being with their friends and some others do so to benefit from its subsequent psychological privileges. Type of sport like team and individual sport could also make changes in the type of motivation require different motivations (Egli et al., 2011). Therefore, people's motivations for participating in sports must be identified so that they are motivated to start doing sport and keep doing it for a long time. Motivation for Participation in physical activities has been among the topics which have attracted the attention of many people in the field of social psychology; accordingly, various theories revolve around this such as Self-Determination Theory, attribution theory, goal-setting theory, competence value theory, and development theory (Reilly and Kelly, 2011). Self-Determination Theory (SDT) provides an extensive concept of motivational procedures for which there is sufficient support in extant literature (Van den Berghe et al., 2014).

Self-determination includes the need for experiencing to choose to start and adjust behavior. A self-determinant person is the one who prefers to make his own choice instead of letting the environment decide for him (Deci and Ryan, 1985). Self-Determination Theory presents a

good understanding of the issue that why a person starts and keeps doing a specific behavior. This is supposed to be an extensive theory associated with motivation, excitement, and humanistic trend in social fields. Self-Determination Theory which has claimed that motivation is multi-dimensional, and pointed to the fact that various spectrum of motivation is indicant of someone's behavior; thus, motivation has to be investigated in a large perspective (Deci and Ryan, 2012). The positive consequent findings resulted from the response parallel with supporting self-determination is due to the fact that supporting self-determination, as well as communications supporting self-determination in general, provides people with psychological feed which is crucial for them to gratify their psychological needs (Ryan and Deci, 2017).

Self-Determination Theory is a spectrum which encompasses the domain from Amotivation to intrinsic motivation. In the middle of this spectrum lies extrinsic motivation which includes different types of extrinsic motivation which ranges from extrinsic to somehow (Deci and Ryan, 1985). Amotivation is lack of intention to do or to get engaged in a task without any passion for intending to do that (Ryan and Deci, 2002). Extrinsic regulators, which are the most absolute type of extrinsic motivation, include behaviors that show an inclination toward avoiding their negative consequences. Identified regulators are the internalization of extrinsic regulators which have been built by the prevailing pressur (Ryan and Deci, 2017). Self-determined regulation is an activity that a person does to internalize the intention. Mixed regulation is a natural consequence of internalization which shows the consolidation process with interoception (internal sense) (Scioli-Salter et al., 2014). Intrinsic motivation is an instinctive inclination or a natural tendency to implement abilities, to search for optimized challenges, and to control them (Deci and Ryan, 1985).

Regarding various demographic conditions in different countries, each country needs to define its own participation motivation in regular activities in universities. Moreover, the presence of differences between females and males' sport motivations, as well as participants' different motivation in team and individual sports, still requires more research to be confirmed (Ong, 2019). Various scales have evolved associated with Self-Determination Theory. Nevertheless, sport motivation scale (SMS-6) was developed by Mallet and collegues (Mallett et al., 2007). This scale completely follows Self-Determination Theory, and it could be applied for both male and female, P.E students and others, elite and amateur athletes, and athletes in team and individual sports a well.

Method

The main purpose of the present research was to compare the motivation among male and female students of physical education (P.E) and non-physical education at elementary, semi-professional, and professional level of team and individual sports. Taking into consideration that the sport motivation factors among male and female students in any sport and activity, as well as between P.E major and non-P.E major, were evaluated, this research was descriptive.

Participants

The statistical universe of the study consisted of all Tehran University students in 2019; of which 260 completed the intended scale, of which 241 questionnaires were acceptable. A total of 241 people; 132 men (%54; age: 21,54±2.09), and 109 (%46; age: 20,48±1.98) women, participated in the study and consisted of 118 individual sports and 123 team athletes.

Measures

In the study, personal information forms and Sport Motivation Scale (SMS-6) were used.

Demographic Questionnaire: This was a self-administered questionnaire which evaluated gender, field of study, and field of sport that was presented to the students accompanied with sport motivation scale.

Sport Motivation Scale (SMS-6): this scale was developed by Mallet et al. in 2007. This scale follows Self-Determination Theory that in one spectrum from amotivation to intrinsic motivation determines the type of sport motivation of a person which includes the following subscales namely amotivation, extrinsic regulation, identified regulation, self-determined regulation, mixed regulation, and intrinsic regulation.

Statistical Analysis

The data analysis was done with the SPSS package program, and the error level was taken as .05. Whether the data met the prerequisites of parametric tests were decided by examining the skewness and kurtosis test results. Due to the normality of data, the independent t-test was used to compare gender, physical education, team, and individual sports. For investigating the

athletes' motivations in professional, semi-professional, and elementary levels, one-way ANOVA test was applied.

Results

Table 1. Distributions of scale points

Scales	Sub-Dimensions	N	x̄±Ss	Skewness	Kurtosis
SMS-6	**Intrinsic Motivation**	241	4.77±1.27	-0.71	-0.05
	Integrated Regulation	241	3.96±1.5	-0.10	-0.84
	Identified Regulation	241	4.66±1.36	-0.36	-0.26
	Introjected Regulation	241	4.81±1.37	-0.65	0.12
	External Regulation	241	3.66±1.44	0.01	0.74
	Amotivation	241	2.79±1.35	0.69	0.44

When the normal distribution of the research data was examined (Table 1), it was observed that the skewness and kurtosis values of the scores obtained from the scales show a normal distribution of the data.

Table 2. Results of the t-test test to compare the motivations of the athletes according to the gender

	Gender	n	x̄±Ss	Sd	t	p
Intrinsic Motivation	Male	132	4.81±1.15	239	0.47	0.07
	Female	109	4.73±1.42			
Integrated Regulation	Male	132	3.96±1.48	239	-0.03	0.12
	Female	109	3.96±1.53			
Identified Regulation	Male	132	4.54±1.28	239	-1.42	0.10
	Female	109	4.79±1.46			
Introjected Regulation	Male	132	4.82±1.29	239	0.09	0.11
	Female	109	4.80±1.46			
External Regulation	Male	132	3.73±1.41	239	0.82	0.24
	Female	109	3.58±1.48			
Amotivation	Male	132	2.74±1.31	239	-0.61	0.34
	Female	109	2.85±1.40			

Considering the difference between the scores obtained from the sports motivation subscale in terms of gender variable (Table 2), it was determined that there was no significant difference in sports motivation subscale (ıntrinsic motivation, ıntegrated regulation, ıdentified regulation, ıntrojected regulation, external regulation and amotivation) scores according to the gender variable.

Table 3. The results of the t-test test to compare the motivations of the athletes according to the Physical Education

Subscles		n	x̄±Ss	Sd	t	p
Intrinsic Motivation	Non-physical Education	112	4.54±1.15	239	-3.763	**0.00**
	Physical Education	129	5.15±1.17			
Integrated Regulation	Non-physical Education	112	3.17±1.24	239	-9.554	**0.00**
	Physical Education	129	4.82±1.21			

Identified Regulation	Non-physical Education	112	4.23±1.27	239	-4.796	**0.00**
	Physical Education	129	5.09±1.26			
Introjected Regulation	Non-physical Education	112	4.43±1.37	239	-5.145	**0.00**
	Physical Education	129	5.33±1.13			
External Regulation	Non-physical Education	112	3.16±1.33	239	-5.634	**0.00**
	Physical Education	129	4.22±1.33			
Amotivation	Non-physical Education	112	2.99±1.33	239	2.642	**0.00**
	Physical Education	129	2.50±1.27			

Considering the difference between the scores obtained from the sports motivation subscale according to the physical education variable (Table 3), the intrinsic motivation according to the physical education variable (t=-3.763; p<0.05), integrated regulation (t=-9.554; p<0.05), identified regulation (t=-4.796; p<0.05), introduced regulation (t=-5.145; p<0.05), external regulation (t=-5.634; p<0.05) and amotivation (t=2.642; p<0.05) subscale scores were found to be significantly different.

Table 4. The results of t-test test to compare the motivations of the participations according to the sport type

	Type of Sport	**n**	**x̄±Ss**	**Sd**	**t**	**p**
Intrinsic Motivation	Team Sport	123	4.81±1.28	239	0.472	0.19
	İndividual Sport	118	4.73±1.27			
Integrated Regulation	Team Sport	123	3.91±1.63	239	1.571	**0.01**
	İndividual Sport	118	4.02±1.46			
Identified Regulation	Team Sport	123	4.53±1.45	239	-1.490	0.13
	İndividual Sport	118	4.79±1.26			
Introjected Regulation	Team Sport	123	4.75±1.33	239	-0.718	0.21
	İndividual Sport	118	4.87±1.40			
External Regulation	Team Sport	123	3.50±1.47	239	-1.729	**0.02**
	İndividual Sport	118	3.82±1.39			
Amotivation	Team Sport	123	2.89±1.41	239	1.192	0.23
	İndividual Sport	118	2.68±1.28			

Considering the difference between the scores obtained from the sport motivation subscale according to the sport type variable (Table 4), the integrated regulation (t=1.571; p<0.05) and external regulation (t=-1.729; p<0.05) subscale according to the sport type variable. It was found that there was a significant difference in the scores. No statistically significant difference was found in other subscales.

Table 5. The results of ANOVA test for comparing the athletes' motivation according to their sports level

		Sum of Squares	**df**	**Mean Square**	**F**	**p**
Intrinsic Motivation	Between Groups	34.68	4	8.67	5.72	**0.00**
	Within Groups	357.41	236	1.51		
	Total	392.10	240			
Integrated Regulation	Between Groups	80.25	4	20.06	10.28	**0.00**

	Within Groups	460.44	236	1.95		
	Total	540.70	240			
Identified Regulation	Between Groups	34.54	4	8.63	4.92	**0.00**
	Within Groups	414.28	236	1.75		
	Total	448.83	240			
Introjected Regulation	Between Groups	18.93	4	4.73	2.58	**0.03**
	Within Groups	432.75	236	1.83		
	Total	451.69	240			
External Regulation	Between Groups	26.28	4	6.57	3.27	**0.01**
	Within Groups	473.97	236	2.00		
	Total	500.25	240			
Amotivation	Between Groups	10.72	4	2.68	1.47	0.21
	Within Groups	429.23	236	1.81		
	Total	439.95	240			

According to the sport level variable of the scores obtained from the sports motivation subscale (Table 3), according to the sport level variable, Intrinsic Motivation [$F_{(4, 236)}$=5.726, p<0.05] , Integrated Regulation [$F_{(4,236)}$=10.284, p<0.05], Identified Regulation [F(4,236)=4.92, p<0.05], Introjected Regulation [$F_{(4,236)}$=2.581, p<0.05] and External Regulation [$F_{(4, 236)}$=3.272, p<0.05] It was determined that there was a significant difference between the sub-dimensions. No statistically significant difference was found in other subscales.

Conclusion and Suggestion

In this study, we examined the differences between sports motivations between male and female who practiced individual, and group. Some motivational forces, such as intrinsic motivation, may play a critical role in some subscales, since they strongly predict behaviors, such as participating, caring, and trying to do physical activities. Therefore, with regard to the type and level of this motivational force, it could make a big difference. The results revealed that there is no significant difference between the male and female groups associated with all sport motivation indices. A current study with the another study that One of study in this way, was compared male and female participants' motivation in national competitions and concluded there is a significant difference between males and females in self-determined regulation, extrinsic regulation, and intrinsic motivation for performance (Monazami et al., 2012) was not in line. In contrast, no significant difference was found between males and females taking into account identified regulation, intrinsic motivation for getting knowledge, and amotivation. Chantal an colleagues also made an attempt to compare motivation between males and females and observed that females possessed higher levels of intrinsic motivation which, in their perspective, was due to their higher satisfaction and enjoyment (Chantal et al., 1996).

In both team and individual sports revealed there was only a significant difference associated with extrinsic regulation subscale between the athletes of team and individual sports, so that this difference was more apparent among the athletes participating in individual sports compared with team-sport athletes. In extrinsic regulators, behavior is completely controlled by extrinsic resources such as rewards and limitations. With regard to the fact that the results of a game in individual sports, to a great extent, depend on the individual's performance, while in team sports the results depend on the group, so it could be expected that individual-sport athletes are affected by resources and outward limitations more.

There was a significant difference in all sport motivation indices, except amotivation subscale, among athletes of all levels (elementary, semi-professional, professional).In their research conducted among adult soccer players at various levels, that there was no significant difference associated with motivations as a performance of competitive level (Sarmento et al., 2008; Çakaloğlu et al., 2019). Additionally, amateur players reported lower levels of self-determined regulation compared with professional ones. On the other hand, other professional and semi-professional players showed higher levels of identified regulation compared with amateur players and strongly believed that their competence in soccer practice is the results of learning and the ability to develop. Moreover, amateur players showed higher levels of amotivation compared with professional players. As it can be observed, the finding of the present research concurs with Sarmento and Coworker (2008)'s research, since in the present research, the rate of the following indices namely intrinsic motivation, extrinsic regulation, mixed regulation, self-determined regulation, and identified regulation were higher at professional, semi-professional, and elementary levels, respectively, and the rate of amotivation was higher at elementary levels, while it was lower at professional levels. This means that people at professional levels possess higher intrinsic motivation and are intrinsically satisfied with participating in sport and instinctively participate in sport activities for enjoyment. Besides, taking into consideration the fact that professional athletes are motivated through resources and outward rewards, while semi-professional and elementary athletes have fewer resources and outward rewards, thus, it can be predicted that extrinsic motivational factors, including extrinsic regulation, mixed regulation, self-determined regulation, and identified regulation would be higher among professional athletes.

Based on self-determination theory (Deci and Ryan, 1985), the athletes who participate at higher level, specifically, focus on victory and probably possess less self-determination, as

well as showing higher levels of amotivation and identified regulation compared with those who practice at lower levels. Accordingly, it can be observed that in the present research the rate of amotivation at elementary level was more than higher levels which means that these athletes are exposed to the risk of quitting their sport more than others. Another considerable factor is that professional athletes showed higher levels of self-determined regulation compared with elementary players, while according to cognitive assessment system it may be expected that they possess less motivational profile than beginners do and have lower self-determined regulation and intrinsic motivation. This could be interpreted in the way that they value their type of sport for themselves and assimilate with that. Besides, this notion is also of high significance that professional athletes, in long term, may chase more goals (participating in higher-class competitions).

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