

Effect of passion for physical activity on (physical) burnout in student athletes

Efecto de la pasión por la actividad física sobre el agotamiento (físico) en estudiantes atletas

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Abstract: The general aim of this study was to investigate the effect of passion for physical activity on (physical) burnout in student athletes. The present study was of descriptive survey kind and based on structural equation modeling. The statistical population of this research was 350 physical education students from four state universities in Tehran. They were selected in a cluster-random way, and completed questionnaires on passion and burnout, of which 324 questionnaires were usable. The results indicated that obsessive passion with a regression coefficient of 0.23 and a T-statistics of 1.32 did not have a significant effect on the burnout of student athletes. However, the passion consistent with the regression coefficient (-0.66) and the T-statistics (-2.99) have a significant negative effect on the burnout of student athletes. Furthermore, the research model was adequately adjusted. Therefore, it is recommended that university administrators and executives implement and accelerate the planning and implementation of actions to inform students and control the negative consequences of these structures.
Keywords: Passion, burnout, student athletes.

Resumen: El objetivo general de este estudio fue investigar el efecto de la pasión por la actividad física en el agotamiento (físico) en estudiantes atletas. El presente estudio fue de tipo de encuesta descriptiva y se basó en modelos de ecuaciones estructurales. La población estadística de esta investigación fue de 350 estudiantes de educación física de cuatro universidades estatales de Teherán. Se seleccionaron de forma aleatoria por grupos y se completaron cuestionarios sobre la pasión y el agotamiento, de los cuales se pudieron utilizar 324 cuestionarios. Los resultados indicaron que la pasión obsesiva con un coeficiente de regresión de 0.23 y un estadístico T de 1.32 no tuvo un efecto significativo en el agotamiento de los estudiantes atletas. Sin embargo, la pasión consistente con un coeficiente de regresión de (-0.66) y un estadístico T de (-2.99) tuvo un efecto negativo significativo en el agotamiento de los estudiantes atletas. Además, el modelo de investigación se ajustó adecuadamente. Por lo tanto, se recomienda que los administradores y ejecutivos universitarios implementen y aceleren la planificación e implementación de acciones para informar a los estudiantes y controlar las consecuencias negativas de estas estructuras.

Palabras clave: Pasión, agotamiento, deportistas.

Introduction

Exercise is the most important reason for healthy lifestyle (Forrest et al, 2016). Among the benefits of regular exercise and physical activity, we can mention reducing the risk of cancer (Brown et al, 2012), health improvement (Borrego et al, 2015; Lee et al, 2011; López et al, 2014, 2017, 2018), stress reduction (Jones et al, 2017). On the other hand, one more factor which forces individuals to engage in physical activities is the passion for continuous participation in physical activities (Paradis et al, 2013). On the other hand, according to Szabo (2010), dependence on practice is associated with commitment to doing exercise, and this commitment is accompanied by a certain degree of passion for participation in and gravitation to that exercise. Schreiber & Hassenblass (2017) believe that recognizing the relation between passion and dependence in athletes who do amusing exercises is difficult. Vallerand et al (2003) defined passion as a strong desire for an activity, which people like that activity, attribute it as an important matter, and spend time and energy on it. The Dual Model for Passion shows two negative and positive pas-

sion concepts (Parastatidou et al, 2012). In fact, it shows two kinds of passion: obsessive (addictive) passion which occurs when a person feels internal forces push them to participate in their favorite activity, which are actually out of their control. In fact, obsessive passion is created by controlled internalization of activity in the person's identity and affects the individual's identity. When an obsessive passion is created in a person, they have an uncontrollable tendency to engage in an activity that they believe it as an important and enjoyable one. This passion indicates that the person is under the control of the activity that he/she has passion for it. In the obsessive passion, the activity that the person has passion for it, occupies much of the space of person's identity and is in opposition to other elements of his identity and other aspects of his life. On the other hand, harmonious (or consistent) passion is also created when a person feels free to participate in an activity and does not feel any compulsion or pressure to continue the activity (Vallerand et al, 2003). Harmonious passion originates from the self-determined internalization of the activity in the individual's identity. This process of internalization creates a new individual structure that can be internalized to be in line with other identity elements as well as the individual's personality (Deci & Ryan, 2000). When

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individuals have harmonious passion, they do not experience uncontrollable desire to engage in an activity, but choose it freely. This passion represents the positive aspect of passion in which the individual controls the activity that he has passion for it. In a harmonious passion, the activity for which the person has a passion, forms an important part of the individual's identity, and does not affect his entire identity, and is in line with other elements of his personality and other aspects of his life. Additionally, people with a harmonious passion, after engaging in an activity, can experience positive emotions and focus on other important activities in their lives. Therefore, in a harmonious passion, there is not much conflict between the activity that one has a passion for it and other aspects of his life, or if there is any, it is too little, and if they cannot engage in an activity for which has a passion, they can easily cope with it, and focus their energy on other activities of their own lives (Vallerand, 2015). People with obsessive passion, feel forced to engage in such activities in order to achieve the special outcomes of their favorite activities, such as social recognition and self-esteem. While people with harmonious passion, do not expect any consequence of participating in it, except the pleasure of the activity itself (Vallerand et al, 2003). Therefore, for the people with a harmonious passion, they are more flexible to join in an activity, and their full focus is on the activity itself, and they experience more positive outcomes during performing the activity (such as concentration) and after performing the activity (such as positive emotions, satisfaction, etc.). These people control the activity, and they can decide when they will take part in the activity and when they will not. In contrast, people with obsessive passion feel forced to engage in the activity; in such a case, contradictions with other aspects of their lives are created, and when they are not involved in that activity, or not feel free to participate in that activity, they feel frustrated (Vallerand, 2015). In this regard, worries about the negative effects of physical activities have led some sports psychologists to study the levels of burnout in elite athletes. Participation in the championship sport and success in it requires a great deal of involvement in multiple training programs, in which the psychological and physical stresses, as well as the intensive exercises, expose athletes to burnout. Researchers define burnout as a state of exhaustion or failure due to a cause or relationship that causes failure (Escandarnzhad & Abedini, 2015). Burnout is commonly seen as a syndrome that occurs due to the continuous presence of athlete in a stressful environment, along with some specific activities. Among the characteristics of this phenomenon is the physical and emotional burnout, with a significant drop in the level of athletic performance (Raedeke & Smith, 2001). Yukelson acknowledges that emotional and physical exhaustion, often referred to as "burnout", is a matter of great concern for and old/young professional/amateur athletes and mentors. Suc-

cessful, excellence-seeking and high-flying people are among those who are more exposed to burnout than others (Yukelson, 1998). Yukelson states that the athletes who have undergone a burnout are gradually abandoning the activities that have once been very enjoyable for them. What has already been considered an exciting activity, it is nothing but an onerous task now. At this period, the Athlete looks bored and even tired and only performs the exercises and practices. All of these signs are the response of the athlete to emotional stresses and pressures. In order to win, these athletes put a lot of pressure on themselves to practice long and hard. All the program and purpose of these people are just around the practice and competition, and other issues are important in the second place (Yukelson, 1998). Therefore, a lot of efforts have been made in exercising and practicing psychology to identify the individual and environmental factors that have an impact on athletic analysis (Madigan, Stoeber & Passfield, 2015). In this regard, Kuan-Yu, Ching-Wen & Cheng-Hua (2019) conducted a research named Employee Passion and Emotional Exhaustion: The Role of Mediating Emotional Work Strategies. The statistical sample of this research was 260 people from restaurant industry, and the structural equations modeling was used to data analysis. Results showed that the harmonious passion had a significant negative effect on emotional exhaustion, while obsessive passion had a significant positive effect on emotional exhaustion. By examining the relationship between passion and burnout among athletes, Demirci & Çepikkurt (2018) showed that there is a positive relationship between obsessive passion and emotional burnout as one of the components of burnout. But there is a meaningful negative relationship between harmonious passion and worthlessness. Gustafsson & Hassmen (2011) in a study titled "Are athletes burning out with passion?", which performed on 94 female athletes and 164 male ones from various sports, found that athletes who get high scores in obsessive passion were at greater risk of being burnout than athletes who got lower scores in the harmonious passion.

As a result, the study highlights the need for research on physical education students inside the country, and it seems that this study can provide new findings in this field for professionals in this discipline and will meet one of the major needs neglected within the country. On the other hand, one of the goals of the researchers in the field of addiction to practice is to identify the factors associated with this structure (Khajavi and Mehrabian, 2014). Therefore, recognizing the effect of passion on physical activity as a psychological structure that has been neglected in domestic researches, can, on the one hand, provide useful information for athletes involved with burnout disorder; and on the other hand, it will be useful in developing a new research background and a new research path for researchers. Therefore, by examining the effect of passion for physical activity on burnout, the pre-

sent study can open a new era in controlling this negative phenomenon in sport for students that are subject to the risk of burnout, and providing possible assistance for them.

Methods

The present study is a descriptive survey that has been conducted in the form of field research, and is considered as an applied research in terms of the objectives, and is based on the modeling of structural equations.

Participants

The statistical population of this study was composed of students of physical education faculties in Tehran's state universities, four of which were selected in a cluster-random manner. A total of 350 questionnaires were distributed, using simple random way, among college students, including Associate's, Bachelor's, Master's, and Doctorate degrees; after distributing questionnaires, 324 questionnaires were usable.

Research tools

The questionnaire on Passion for Physical Activity, which was developed by (Marsh et al, 2013) and is based on the 17-question general questionnaire on passion scale (Vallerand et al, 2003), which is consisted of 12 questions. Six items are related to a harmonious passion and six items to obsessive passion, that are answered using seven-point Likert scale from "I completely disagree (1)" to "I completely agree (7)". In this study, the words "physical activity" was used instead of the word "activity" in all the items. Marsh et al (2013) examined the validity of the structure (factor structure, reliability, divergent and convergent validity) on 3571 people, and showed that this scale is completely unchangeable in language and gender and in different groups (entertainment, sports, community, work and education), indicating that items of this scale are suitable for assessing the passion for different activities.

Also, divergent and convergent validities of obsessive and harmonious passions were also supported. Cronbach's alpha coefficient was reported 0.83 for harmonious passion and 0.86 for obsessive passion. In this study, the validity of the structure of this questionnaire was examined through confirmatory factor analysis. Item 2 with a factor loading 0.24 was deleted from the questionnaire because its factor load-

ing was lower than 0.3 and the validity of this questionnaire was confirmed (Table 2). The reliability of this questionnaire was checked using Cronbach's alpha coefficient and the alpha coefficient was 0.77 for harmonious passion and 0.71 for obsessive passion. The Standard Athlete's Burnout Questionnaire has been developed by (Radek and Smith, 2001). The questionnaire is a 15-point scale whose answers are based on the 5-point Likert scale from 1 (I completely disagree) to 5 (I completely agree). The questionnaire has three subscales of five phrases that include reduction of the sense of progress (phrases 1, 5, 7, 13, 14), physical/emotional exhaustion (phrases 2, 4, 8, 10, 12) and worthlessness (Phrases 3, 6, 9, 11, 15). When scoring, phrases 1 and 14 are scored in reverse order. The subscales of the questionnaire have acceptable internal consistency (Cronbach's alpha coefficient for reducing the feeling of progress 0.84, physical/emotional exhaustion 0.89 and worthlessness 0.89) and retest reliability (retest coefficient for reducing the feeling of progress 0.86, Physical/emotional burnout 0.92 and worthlessness 0.92) (Radek and Smith, 2001). Also, the content validity of this questionnaire (Ahmadi, Abdoli, & Aryafar, 2014) was confirmed through exploratory factor analysis with three factors and 58% variance. The reliability of this questionnaire in this study was examined through Cronbach's alpha coefficient and 0.70 was obtained.

Data processing

Descriptive statistics and inferential statistics were used to analyze the data. In descriptive statistics, frequency and percent were used using SPSS software version 24. Also, structural equation modeling using LISREL software was used in inferential statistics.

Results

According to Table 1, it can be seen that among the participants, there are 208 (64%) male and 116 (36%) female. Also, it was found that 111 participants participated in the exercise 3 days a week, and 17 participants were exercising one day a week, that were the highest and lowest frequency respectively, and 105 (about 32%) of the participants were motivated to get health and well-being, and a total of 8 people (about 3%) stated that seeking for relationship with people and finding friends was their motivation for exercising.

Table 1. Demographic characteristics of participants

	Index	Frequency	Percentage
Gender	Male	208	64.2
	Female	116	35.8
Exercise days per week	1 Day	17	5.2
	2 Days	43	13.3
	3 Days	111	43.3
	4 Days	56	17.3
	5 Days or more	97	29.9
The motivation to exercise	Entertainment and amusement	68	21.0
	Health and well-being	105	32.4
	Weight loss and fitness	34	10.5
	Championship	97	29.9
	Relationship with people and finding friends	8	2.5
	Other cases	12	3.7

According to the results of Table 2, it can be seen that the obsessive passion with a regression coefficient 0.23 and a T-statistic 1.32, stays in the range ± 1.96 ; therefore, it can be concluded that obsessive passion has no significant effect on the burnout of student athletes. Also, harmonious passion

has a coefficient of regression -0.66 and a T-statistic -2.99 which stays out of the range ± 1.96 ; therefore, it can be concluded that harmonious passion has a significant negative effect on the burnout of student athletes.

Table 2. Route coefficients and T-statistic of the model

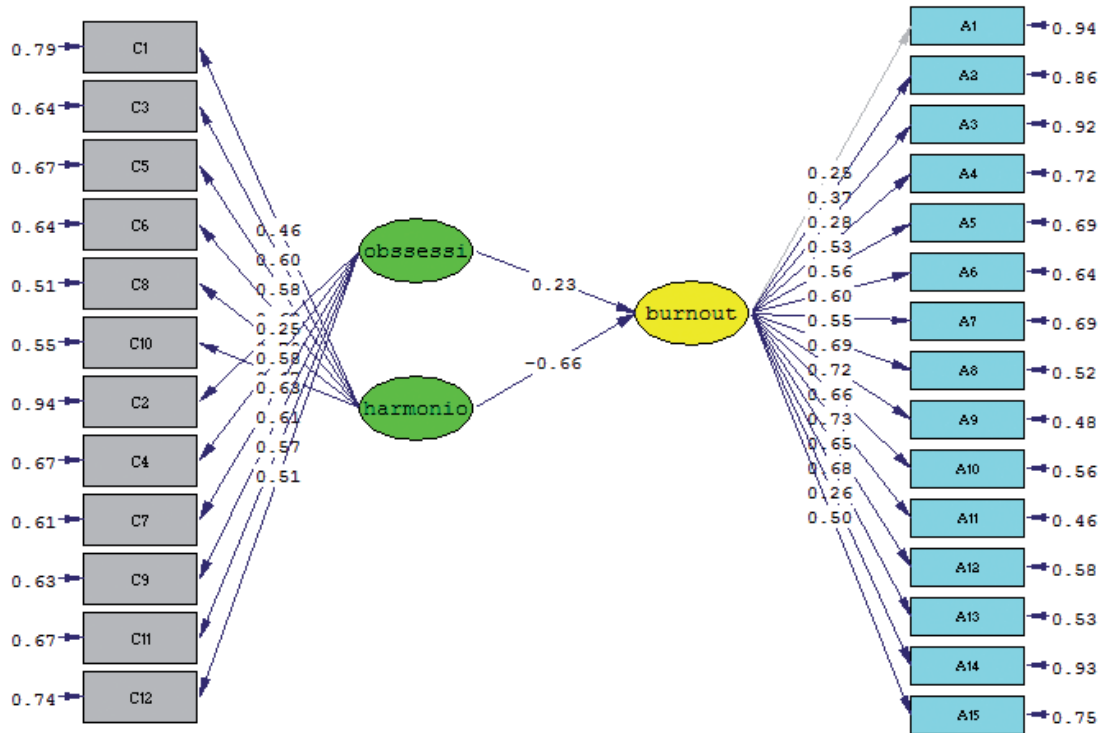
Route	Regression coefficients	Critical ratio	Result
Harmonious Passion → burnout	-0.66	-2.99	Confirmed
Obsessive passion → burnout	0.23	1.32	Not confirmed

According to the results of Table 3, the index of goodness of fit is 0.92 which indicates that this is acceptable for fitting the model. Also, the RMSE index of estimation is 0.07

which indicates that the goodness of fitness is acceptable and represents the model's confirmation. Other values of fitness indices are also valid.

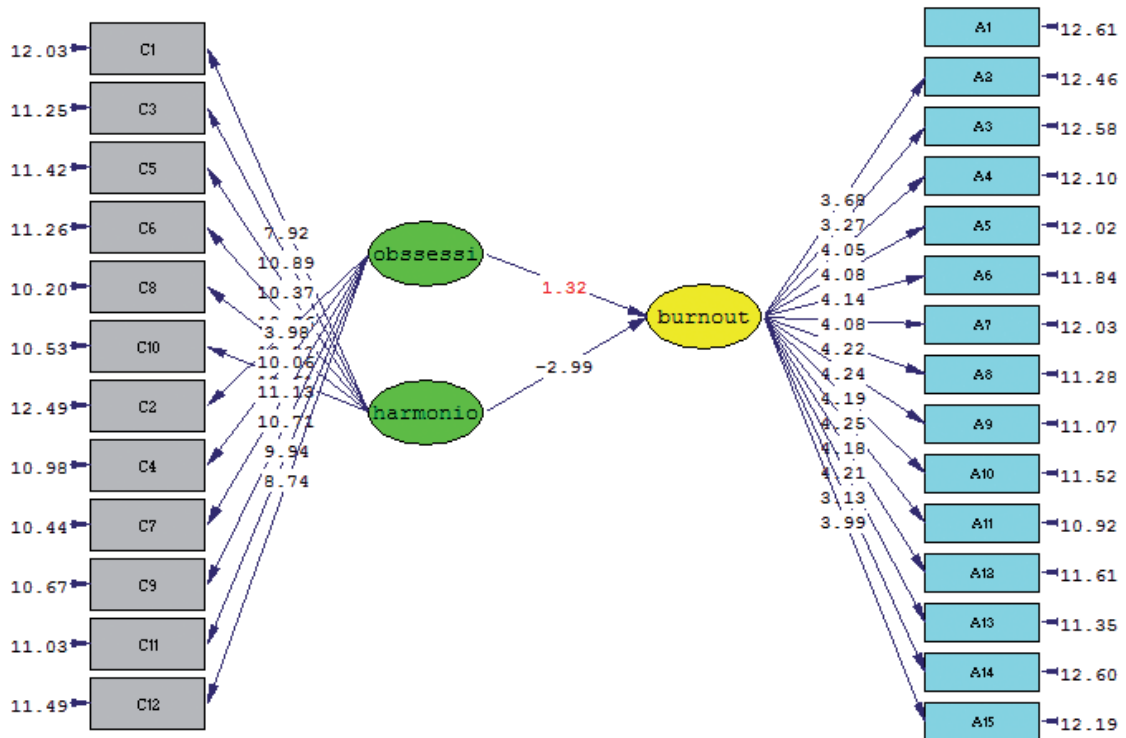
Table 3. Model fit indices.

Conceptual Model Fitness Indices	Acceptable range	Index Value	Interpretations
Chi-square	-	943.59	good fit
Degree of freedom	-	321	good fit
Chi square to degrees of freedom ratio (CMIN/df)	1 to 5	2.93	good fit
RMSE of estimation (RMSEA)	0.1 and lower	0.07	good fit
Improved fitness goodness index (AGFI)	0.90 and higher	0.97	good fit
Goodness of fit index (GFI)	0.90 and higher	0.91	good fit
Adaptive fit index (CFI)	Near 1	0.87	good fit



Chi-Square=943.59, df=321, P-value=0.00000, RMSEA=0.077

Figure 1. Structural equation modeling for estimating standard coefficients.



Chi-Square=943.59, df=321, P-value=0.00000, RMSEA=0.077

Figure 2. The Model for Estimating T-statistic.

Discussion

The purpose of this study was to investigate the effect of passion for physical activity on burnout in athletic students. The findings of this study showed that obsessive passion with a regression coefficient 0.23 and a T-statistic 1.32 had no significant effect on the burnout of student athletes. Contrary to this finding, Kuan-Yu, Ching-Wen & Cheng-Hua (2019) showed that obsessive passion had a significant positive effect on emotional exhaustion. Demirci & Çepikkurt (2018) also reported a meaningful positive relationship between obsessive passion and emotional exhaustion as one of the components of burnout. This difference in the findings of the present study with the results of Kuan-Yu, Ching-Wen & Cheng-Hua (2019), Demirci & Çepikkurt (2018), and Gustafsson & Hassmen (2011) are probably due to differences in some of the features of the research sample, and it seems that the sport environment and their viewpoints are different from those of the student athletes. Obsessive (addictive) passion occurs when a person feels internal forces push them to participate in their favorite activity, which are actually out of their control. People with obsessive passion, have a great and uncontrollable tendency to engage in an activity that attribute it as important and enjoyable, and are under the control of the activity in which they have passion, and the mentioned activity occupies much of the space of person's identity and is in opposition to other elements of his identity and other aspects of his life. People with obsessive passion, feel forced to engage in such activities in order to achieve the special outcomes of their favorite activities, such as social recognition and self-esteem. In contrast, people with obsessive passion feel forced to engage in the activity; in such a case, contradictions with other aspects of their lives are created, and when they are not involved in that activity, or not feel free to participate in that activity, they feel frustrated (Eskandarneshad & Abedini, 2015). Therefore, it can be concluded that athletic students who have obsessive passion for exercise show a great interest in exercise and value it, and feel that exercise is a part of their identity, and they feel forced to exercise, and these attitudes prevent occurring negative consequences, including burnout. Therefore, in order to control the negative consequences of obsessive passion in students, administrators and executives of physical education faculties, using sports psychologists as well as periodic psychological tests, should identify the students who have obsessive passion, and to control their exercise and practice programs.

Furthermore, other findings of this study showed that harmonious passion with a regression coefficient -0.66 and a T-statistic -2.99 had a significant negative effect on the burnout of student athletes. Also, Demirci & Çepikkurt (2018) showed a significant negative relationship between harmonious passion and worthless. Gustafsson & Hassmen (2011)

found out that the athletes who got high scores in obsessive passion were subject to a greater risk of burnout compared with the athletes who had got lower scores in harmonious passion. However, to interpret the meaningfulness of the effect of harmonious passion on burnout, it can be argued that harmonious passion is the experience of enjoying exercise or physical activity that is manifested in the format of life satisfaction, and is consistent and in line with other important activities of life (Vallerand, 2010). Also, it can be acknowledged that student athletes, who have "harmonious passion" for exercise, do not continue exercising when they are injured; they do not feel uncontrolled to stop exercise; they do not exercise much more than they want; and they do not prefer exercise to other activities in their lives. In this regard, (Vallerand, 2012) also acknowledges that people with harmonious passion do not experience any conflict between their other activities in life, and this is a positive part of the passion that the person controls the activity for which they have passion. Additionally, people with harmonious passion, after engaging in an activity, can experience positive emotions and focus on other important activities in their lives. Therefore, in a harmonious passion, there is not much conflict between the activity that one has a passion for it and other aspects of his life, or if there is any, it is too little, and if they cannot engage in an activity for which has a passion, they can easily cope with it, and focus their energy on other activities of their own lives (Vallerand, 2015). On the other hand, people with a harmonious passion for engaging in an activity feel free and do not feel any force or pressure to continue the activity (Vallerand et al, 2003). People, who have harmonious passion, do not expect any consequence of participating in it, except the pleasure of the activity itself (Vallerand et al, 2003). This means that for the student athletes with harmonious passion, they do exercise just for the sake of enjoying their behavior (exercise), and therefore experience less negative outcomes such as burnout.

Conclusion

Considering the range of findings in this area and the differences in the findings regarding the effect of harmonious passion on burnout, it seems that conducting further research, and examining individual and environmental mediation and moderating variables, including type of individual personality, self-esteem, and coping strategies, can be effective in developing the research background. Also, one limitation of the present study was the limitation of choosing participants among physical education students, but it seems that choosing participants among Bodybuilding and Fitness athletes can provide newer and more different findings; thus, it is suggested to study the effect of passion for exercise on burnout considering the role of show-off mediator in these exercises.

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Designing a sport performance evaluation model in Khuzestan Province, Iran, with Interpretive Structural Modeling

Diseño de un modelo de evaluación del rendimiento deportivo en la provincia de Khuzestan, Irán, con Modelización Estructural Interpretativa

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Abstract: Any sport organization intensively needs a performance evaluation system to ensure the desirability of its activities, particularly in dynamic and complicated environments. The objective of this study was to use interpretive structural modeling (ISM) to propose a performance evaluation model for the youth and sports offices in Khuzestan Province, Iran. This is a quantitative study of descriptive-analytical type. The statistical population consisted of 120 scientific and executive experts. 60 individuals were invited to participate, and finally, 30 individuals were selected as the final respondents by purposive sampling method. The data measurement tool was a researcher-made questionnaire. Its validity was confirmed by the experts. Descriptive and inferential statistics methods were used to analyze the data. MATLAB was employed to analyze the data concerning the interpretive structural model. The results showed that most of the strategies are in the linked area according to the analysis of the influence power and dependence (MICMAC Table). Moreover, the results of the strategy classification indicated that the most essential strategies were: strategies of sport preparation scheme, legislation, structural obstacles elimination, creation of the province sport strategic council, and strategic management approach. **Keywords:** performance evaluation, sports, Interpretive Structural Modeling, model design.

Resumen: Cualquier organización deportiva necesita un sistema de evaluación del rendimiento para garantizar la conveniencia de sus actividades, especialmente en entornos dinámicos y complicados. El objetivo de este estudio fue utilizar Modelización Estructural Interpretativa (ISM) para proponer un modelo de evaluación del rendimiento para las oficinas de jóvenes y deportes en la provincia de Khuzestan, Irán. Este es un estudio cuantitativo de tipo descriptivo-analítico. La población estadística estuvo formada por 120 expertos científicos y ejecutivos. Se invitó a 60 individuos a participar y, finalmente, se seleccionaron 30 individuos como los encuestados finales mediante un método de muestreo intencional. La herramienta de medición de datos fue un cuestionario elaborado por investigadores. Su validez fue confirmada por los expertos. Se utilizaron métodos estadísticos descriptivos e inferenciales para analizar los datos. Se empleó MATLAB para analizar los datos relativos al modelo estructural interpretativo. Los resultados mostraron que la mayoría de las estrategias se encuentran en el área vinculada según el análisis de influencia poder y dependencia (Tabla MICMAC). Además, los resultados de la clasificación de la estrategia indicaron que las estrategias esenciales fueron: estrategias de planificación deportiva, legislación, eliminación de obstáculos estructurales, creación del consejo estratégico de deportes de la provincia, y enfoque de gestión estratégica. **Palabras clave:** evaluación del rendimiento, deportes, Modelización Estructural Interpretativa, diseño de modelos.

Introduction

Today's organizations are facing numerous challenges in the current complicated and dynamic environments, including pressure for more transparency and responsiveness, limited and running-out resources, increased tasks and activities, very rapidly-changing technology and different management strategies to improve the organizations (Aparicio et al, 2016; Bolton, 2003; García et al, 2016). In such a space, it will be very complicated and difficult to evaluate and manage the performance since the financial evaluation of the organizations based on the profits and losses along with the financial balance sheets and cost-savings will alone mislead us (Medori and Steeple, 2000). Performance management is the evaluation of the organization's performance based on its strategic

plan and it will be impossible to use of acquired information to improve the strategic plan without taking into account the areas other than the financials (Kaplan and Norton, 2007). The factor preventing the strategies is that the strategies are not understood by those who should implement them and they have not yet become quantitative objectives (Manoj Kumar, 2015). Organizations have to adopt a central strategy to survive and grow in today's changing, competitive, and unstable environment. They need to rely on the strategic management proves to deal with this challenge (Boland and Fowler, 2000). Many researchers investigated the importance of the strategic planning from different viewpoints. They all agree on the correlation between the strategic planning and desirable performance of the organization (Mosafa, 2014). Such planning, if formulated properly, will lead to the selection of the strategies that result in the excellence and lead of the organization if implemented correctly in the right time.

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In general, the strategic planning plays the dual and inter-related roles of the organization construction and uniting in its activities. In this regard, Machado (2004) believes that the strategic planning is a key component for the organization's excellence. This process is focused on the strategic and operational objectives, organizational policy-based strategies and objectives, plans, and activities formulated to achieve the expected objectives and outcomes. It is a very important means of organizational effectiveness (Alian, 2013; Neely et al. 2000).

Thus, the senior managers in many profit and non-profit companies and organizations, including the managers of the sport organizations, spend considerable time, energy, and financial resources on formulating and determining and basic strategies of their organizations, but most of them report that their strategies were not implemented desirably. The perspective that these managers envision for their organizations are very clear to themselves but their employees' understandings of this perspective is very low (Fazlollahi, 2007). Hence, the senior managers are always looking for a strategy to ensure the implementation of their strategies. In such a situation, the performance evaluation is a leading light for all the management activities (Amiran, 2004). Individual and organizational performance evaluation is a means to control the quality from the strategic actions to the operational ones (Afarinesh, 2004).

At the same time, sports play an essential and increasing role in economic, political, cultural, and social system changes. In other words, the position and ever-increasing importance of sports and sport organizations, sport federations, and youth and sports offices as the executive levers of the sports in the country have brought up various discussions in the organizing, policy-making, planning, marketing, and performance evaluation (Parvin, 2011). But, performance evaluation has been neglected for the organizations, federations, and youth and sports offices to a great extent. In fact, despite high interests in the creation of the strategic structures and plans and formation of the regulations, systematic efforts have not been made to evaluate in these organizations and there are many ambiguities on the performance results and rooting their problems. At the same time, the youth and sports offices play an important role in the development and promotion of sports in the provinces and counties, responding to a part of the requirements of the communities, in particular the youth, and achieving the excellent social, psychological, emotional, and ethical objectives. Without investigating and knowing the progress and objective achievement level, it will not be possible to identify the challenges faced by the youth and sports offices, get feedbacks, know the implementation level of the formulated policies, and identify the items that need serious improvement. All the above-mentioned will be impossible without measurement and evaluation. Lord Kelvin

says: "Anything we cannot measure, we cannot control, and the more we cannot control, the more impossible it will be to manage." For rapid growth in the sport organizations, the performance evaluation in the organizations has to use the evaluation study in all the areas and the performance evaluation should be developed as a combination of individual and organization evaluation (Kaplan and Norton, 2001). With the increased competition in sports and the changed attitude toward the sports as an industry, sport organizations need indicators and patterns to evaluate their performance for dynamism and excellence in the sport programs and activities, and as the physical education programs and sports are mostly executed by the youth and sports offices, federations, and sport groups, the youth and sports offices have a great responsibility in the development of the sports and implementation of the physical education programs in the country (Parvin, 2011). Thus, the definition of the strategies and obtaining strategic preferences to make a roadmap and establish a performance management system based on the progress in achieving the strategies designed by the Ministry of Youth and Sports in the national level and youth and sports offices in the provincial level can fill the theoretical and practical gap to a great extent. Previously, Khanmoradi et al. (2015) evaluated the performances of the youth and sports offices in Kermanshah Provinces, Iran, based on EFQM model and found that excellence, community results criteria, commercial cooperation, and resources had the highest mean scores, respectively. The highest correlations were between resources and employees results and between process and customer. The lowest correlation was between the criteria of community results, commercial cooperation, and resources. Designing a performance evaluation model for the football pro league of Iran, Hoseyni Keshtan (2014) concluded that the indicators of costs, revenue, player's wages, club age, number of stadium audience, player's stability, management stability, number of titles, coaches' wages, coach stability, and finally league experience had the highest effect coefficients on the performance of the clubs by 3.83, 2.18, 1.95, 0.85, 0.68, 0.57, 0.42, 0.35, 0.18, 0.058, and 0.03, respectively. Nejadshajjadi et al. (2013) identified and prioritized performance evaluation indicators for the Iranian sport federations using AHP model. In their prioritization of four general criteria of federations' performance evaluation, support and planning affairs, development of sport infrastructure, technical and sport matters, and development of physical resources and equipment were ordered, respectively. Moreover, in an attempt to develop a performance management framework for the National Sport Organization of Australia, O'boyle (2015) emphasized the necessity of the performance evaluation in the sport organizations to provide quality-based services to the beneficiaries in a responsive and transparent manner. In all the performance evaluation means, key indicators, including strategic plan, excellence

culture, national team, player and coach development, expert services, beneficiaries, sustainable development, and the commercial aspects of sports were emphasized.

Any sport organization needs a performance evaluation system to ensure the desirability of its activities, particularly in complicated and dynamic environments (Mosafa, 2014). Evaluation system refers to subjects such as the evaluation of the tasks, methods, processes, inputs and outputs (Tolou and Joshaghani, 2014). Appreciating the works of the internal authors, the current study attempts to use the findings of the work of Marashian (2014), entitled as "Formulating a Strategic Plan for the Youth and Sports Office of Khuzestan Province" and ISM to propose a graded model of strategies to provide the sport managers of Khuzestan Province with fundamental priorities and work steps. Thus, both the work scheme and performance evaluation means will be presented to the sport managers in the province. It should be noted that Marashian (2014) introduced 17 strategies given in Table 1 as the strategic plan for Khuzestan Youth and Sports Office. The main question in this study is "which of the 17 strategies are fundamental and which of them are outcomes of the implementation of the fundamental ones?" In fact, the dependence and influence of these strategies are a question that was not answered in the study of Marashian (2014). This study aims to provide an answer by using the academic and executive experts' comments in sports in Khuzestan Province. Hence, the author is trying to answer the question "what is the relationship between Khuzestan Sport Performance Evaluation Model and ISM?"

Methodology

The current study is an applicable research in terms of methodology, which attempts to use ISM method and present a performance evaluation model for Khuzestan youth and sports office. This study is a quantitative one of descriptive-analytical type that used documentary and field methods to collect the data. For data collection, the strategies formulated in the treatise of Dr. Marashian (2014) were employed. The data required in the ISM were collected by a researcher-made questionnaire that was distributed online among experts using Google Form. The statistical population consisted of scientific and executive experts involving the director, assistant directors and masters in the youth and sports office of the province, heads of the youth and sports offices of the counties, and the professors of the physical education universities and faculties in Khuzestan Province. 120 individuals were identified as the statistical population, among which 60 were invited to participate in the conference. Ultimately, 30 individuals were selected as the final experts by the purposive sampling method. In the questionnaire, the experts determined positions for each strategy against other

ones. The questionnaire was designed in form of a 17*17 matrix in which the experts determined which strategy lays the ground for which one and if they are related. If a strategy in a row laid the ground for the strategies in the corresponding column, the expert gave the score 1, and if not, they gave the score 0. The validity of the questionnaire was explored by the information obtained from the related studies, supervisor, consultant, and experts in governmental management, industrial management, and sport management, gaining the required validity after collecting and applying the expert's comments. Moreover, given the nature of the questionnaires, referring to the experts, and providing retrospective statics, such questionnaire did not need validity investigation. This study employed descriptive and inferential method to analyze the data. SPSS software was used to describe the indicators of mean, standard deviation, and bounds as well as tables and graphs. Moreover, MATLAB was employed to analyze the data relating to the ISM.

ISM is a suitable technique to analyze the effects of a component on the other ones. This methodology examines the order and direction of the complicated relationships between the components of a system. In other words, it is a means by which a group can overcome the complications between the components (Azar and Ahmadi Kohan, 2008). For ISM, the following steps should be followed:

1. Identify the variables (influencing factors) relating to the problem in a certain social field,
2. Build a structural self-interacting matrix to investigate the problem variables in pairs,
3. Build an initial access matrix (in this step, the self-interacting matrix transforms into a money matrix),
4. Build the final access matrix by which different layers of the model can be recognized, investigating the dependence and influence coefficient of each variable (factor),
5. Level partitioning: in this step, the final access matrix is divided into different levels. Typically, in large systems, the network relationships between the system components increase its complication, which can be reduced by level partitioning of the model,
6. Draw the model: in this step, the final model of the variables is drawn according to the variable levels and final access matrix, and
7. Analyze the influence power and dependence (MIC-MAC Table).
 - (i) Autonomous variables: they have low influence and dependence, with a small effect on the relationships and dynamism of the system.
 - (ii) Dependent variables: they have high dependence and low influence.
 - (iii) Independent variables: such variables have high influence and low dependence. They are called key variables.

(iv) Link variables: these variables have high influence and dependence. In fact, any change in them will change the others (Ahmad and Siddiqui, 2013).

Findings

Descriptive findings showed that among 30 experts participated in the conference, 21 (70%) were male and 9 (30%) were female; 9 were 20-30 years of age (30%), 15 (50%) were 31-40 years of age, and 6 (20%) were 41-50 years of age. 21

(70%) individuals had PhD, 6 (20%) had master's degree, and 3 (10%) had bachelor degree. In terms of job position, 18 individuals (60%) had university positions and 12 had executive positions in the youth and sports office of Khouzestan.

The 17 strategies proposed by Marashian (2014) were employed to provide sport strategies for Khouzestan Province. After the questionnaires were completed by the experts and the matrix cells were summed up, the initial access table was obtained as follows:

Table 1. Structural Self-Interacting Matrix for Khouzestan Sport Performance Evaluation Model.

	1. Economy committee	2. Two-way communication	3. Sport village	4. Basic sports	5. Public relations	6. Sport ethics	7. Public participation	8. International relations	9. Events hosting	10. Organizational interaction	11. Preparation scheme	12. h.a.s obstacle elimination	13. Place management	14. Strategic council	15. Knowledge management	16. Strategic management	17. Human resources management
1. Building economy and marketing committee	27	29	22	27	24	24	29	20	25	24	20	22	25	20	25	24	
2. Two-way communication with commercial and industrial centers	25	20	15	21	14	25	22	27	25	9	12	15	10	15	15	10	
3. Building sport village	21	29	22	11	15	24	24	27	20	10	15	22	14	15	7	21	
4. Basic sports development	28	15	30	14	8	30	14	25	26	15	8	15	10	15	11	21	
5. Public relations development	28	27	25	26	24	26	30	24	22	25	27	20	15	19	11	16	
6. Sport culture and ethics development	15	10	15	13	22	23	20	27	21	14	15	7	15	9	11	23	
7. Public participation development	28	24	26	27	22	30	24	26	30	23	26	22	15	23	14	30	
8. International sport relations	19	28	26	21	25	15	23	18	30	13	15	10	15	19	14	20	
9. Event hosting system	30	27	22	26	20	15	18	25	21	27	14	20	15	26	14	22	
10. Inter-organizational interaction	23	24	22	27	21	15	23	29	23	30	20	29	28	26	22	26	
11. Preparation scheme	20	29	25	23	29	28	17	22	24	20	19	21	28	16	29	22	
12. h.a.s obstacles elimination	29	30	29	27	25	26	27	30	28	23	29	27	30	26	28	26	
13. Sport places management system	28	30	26	24	26	27	23	28	30	25	10	15	15	28	15	29	
14. Sport strategic council	22	30	24	23	29	19	21	24	22	28	18	29	23	16	28	30	
15. Knowledge management system	30	30	25	28	27	24	26	25	26	28	29	28	24	26	28	30	
16. Strategic management approach	23	21	24	27	19	30	24	29	23	29	25	17	28	25	21	19	
17. Optimized human resources management	28	29	25	30	29	28	24	26	27	26	24	26	27	25	30	30	

Mode Principle was employed to transform Table 1 into the initial access matrix. In the above matrix, mode is 15. Thus, according to mode principle, all the scores equal to or lower than 15 are taken as 0 and those greater than 15 are taken as 1. Therefore, the initial access matrix will be as indi-

cated in Table.... In Table -, the strategies are coded to summarize the data. Moreover, 1 is placed in the matrix diagonal cells, which means that each strategy also lays the ground for the realization of itself.

Table 2. Initial Access Matrix.

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15	S16	S17	Power of influence
S1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
S2	1	1	1	0	1	0	1	1	1	1	0	0	0	0	0	0	0	8
S3	1	1	1	1	0	0	1	1	1	1	0	0	1	0	0	0	1	10
S4	1	0	1	1	0	0	1	0	1	1	0	0	0	0	0	0	1	8
S5	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	15
S6	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	1	7
S7	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	15
S8	1	1	1	1	1	0	1	1	1	1	0	0	0	0	1	0	1	11
S9	1	1	1	1	1	0	1	1	1	1	1	0	1	0	1	0	1	13
S10	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	16
S11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
S12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
S13	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1	0	1	13
S14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
S15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
S16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
S17	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
Dependency level	16	15	16	15	15	11	17	16	17	17	11	10	13	8	13	8	16	

According to the analyses of influence and dependence (MICMAC Graph), the model variables are classified into four groups in this stage as indicated in Fig. 1.

Fig. 1 shows that most of the strategies fall in the link variables group, which means that any action on these variables will change the others. In the following, the strategies are categorized into levels with respect to each other.

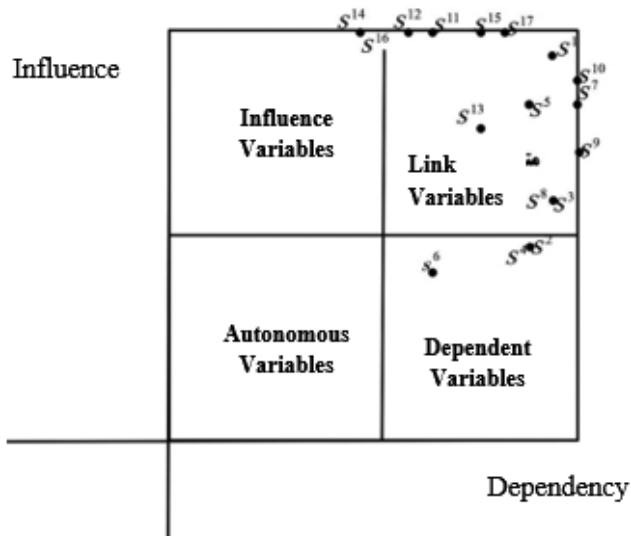


Fig. 1. MICMAC Graph.

Table 3. Strategies Levels, Step 1.

Strategy	Input Set	Output Set	Shared Set	Leveling
S1	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	
S2	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	level 1
S3	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	level 1
S4	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	level 1
S5	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	
S6	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	
S7	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	level 1
S8	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	
S9	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	level 1
S10	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	level 1
S11	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	
S12	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	
S13	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	
S14	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	
S15	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	
S16	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	
S17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11,12, 13, 14, 15, 16,17	

According to Table 3, strategies 2, 3, 4, 7, 9, and 10 fall at level 1. In fact, to place each of the strategies at a certain level, the shared set has to fully match with the input set. Level 1 for the strategies means that those strategies have the highest dependence, being placed on the top of the model. Thus, other strategies have to lay the ground for the realization of the strategies at level 1. To determine the levels of the other strategies, the leveled strategies are removed and the process is repeated. This procedure continues until all the strategies are assigned levels. Given that the level assignment process is

repeated, we avoided presenting the tables to summarize the findings, only providing the results.

In step 2, given the data analysis, strategies 5, 8, and 18 were placed at level 2. Thus, these strategies were removed, starting step 3. In step 3, strategy 6 fell in level 3. In step 4, strategies 1, 13, and 15 took level 4. Finally, in step 5, strategies 11, 12, 14, and 16 fell in level 5. After the level assignment completed, the final model was obtained as shown in Fig. 2.

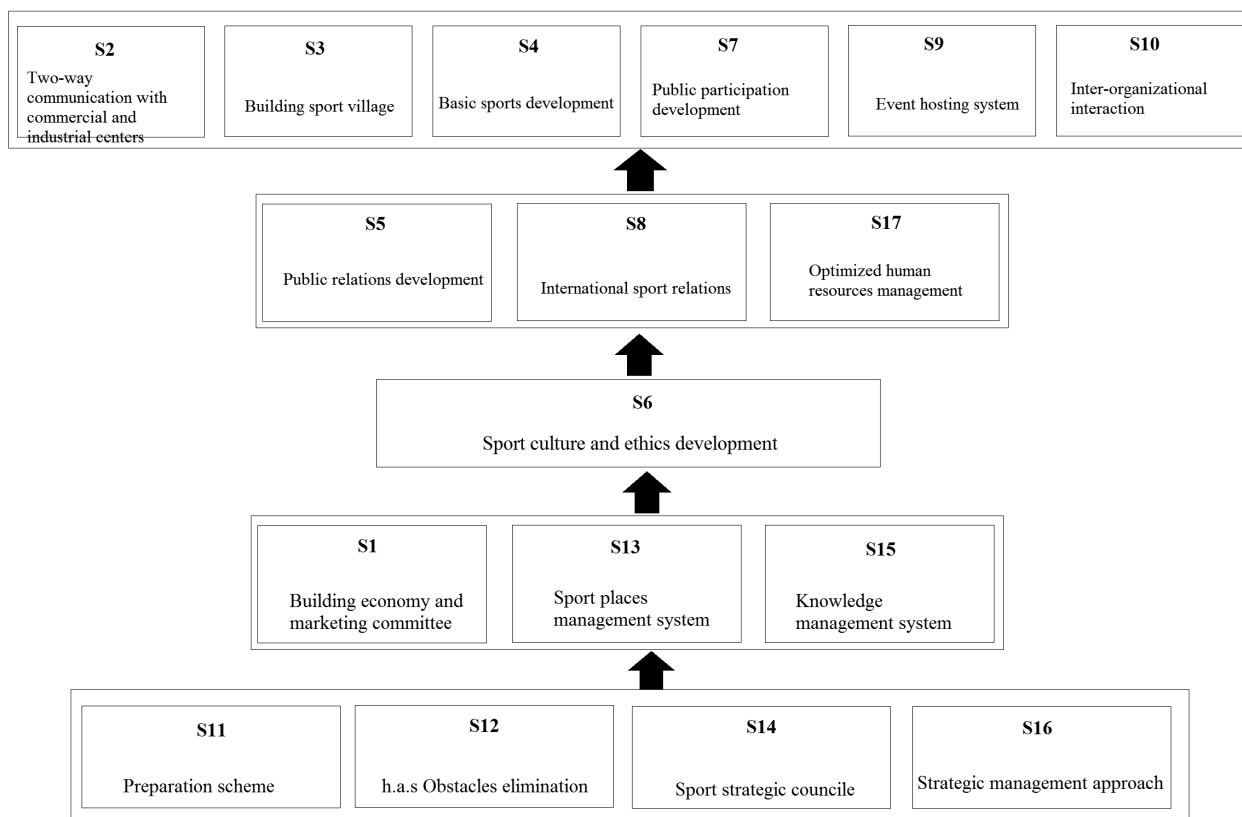


Fig. 2. Khuzestan Sport Performance Evaluation Model based on ISM.

Conclusion

Khuzestan sport performance evaluation mode based on ISM indicates the priorities required to evaluate the performance in the province and counties. It means that the strategies at the bottom levels are the most basic and fundamental ones that have to be correctly implemented to realize the strategies at higher levels. The findings demonstrated that the strategies of sport preparation, level, official, and structural obstacles elimination, building sport strategic council, and strategic management approach are the most basic and fundamental strategies that can lay the ground for the realization of the other ones. According to the ISM principles, all the variables (strategies) at the same level provide conditions for the realization of each other. Hence, it can be said that the sport preparation scheme, h.a.s obstacles elimination, and sport council will not happen until the strategic management approach is adopted in the province sports. The same argument holds for other strategies. These findings clearly remind the sport managers and executives of the fact that the sport plans and schemes have to be made primarily to implement the strategies at the fundamental level. O’Boyle (2015) emphasized the key indicators, including strategic plan, excellence

culture, national team, coach and player development, elite services, beneficiaries, sustainable development, and commercial aspects of sports, among all the performance management means. Part of the mentioned excellence culture is in fact the strategic management approach and building the sport council. At a higher level, the strategies of knowledge management system, sport places management system, and economy and marketing committee rest. These are basic strategies that should be implemented if the strategies at a lower level were already implemented. An interesting thing in this study is that the strategy of sport culture and ethics development rests in the middle level alone. In fact, this shows that, in contrary to what was thought before, ethics are a base for all the actions and plans of any organization. But, ethics needs the implementation of the previous requirements to be implemented. This means that, for example, ethical and cultural principles will not be implemented in sports strongly until the strategy of sport preparation scheme is implemented in Khuzestan Province and execution plans are based on real facts and figures. Therefore, no one is able to define the ethical and cultural principles in the sports of the province until a body is built acting under Khuzestan sport council. This finding proves to the managers that the implementation

of the strategy of sport ethics and culture is not a claim, but a scientific practice with logical support. If the previous strategies are implemented intelligently, the higher level of the strategies will be implemented, that is, optimized human resources management, international sport relations development, and public relations development. In spite of the fact that we are at level 4 of the strategies in Khuzestan province, the strategies seem to be laying the ground for the implementation of the last level of the strategies, that is, level 5. Thus, the strategies of public relations development, human resources optimization and international relation development need to be targeted and implemented properly. If all the strategies at the previous levels are implemented properly, the implementation of the final level strategies, including two-way communication with commercial and industrial centers, building sport village, basic sports development, public participation development, event hosting system, and inter-organizational interactions can be expected to be more possible and achievable. Khanmoradi et al. (2015) concluded that the mean

scores of excellence, community results, commercial cooperation, and resources were highest, respectively. Nejadshajjadi and Soleymani (2013) prioritized four general criteria for the performance evaluation of the federations to be support and planning, sport infrastructure development, technical and sport matters, and physical and equipment resources, respectively. This was in consonance with the 17 strategies proposed by Marashian (2014). But the findings of the previous studies do not provide the managers and readers with such a hierarchy of the strategy implementation. In cases where we deal with various criteria, objectives, and strategies, utilization of ISM seem to be efficient for the identification and prioritization of the basic variables, laying the ground for the other variables and giving proper choice to the managers and decision makers. Hence, the sport managers in Khuzestan Province are required to provide situations for the growth and excellence of sports in the province using the roadmap they were given by Marashian (2014) and the current study.

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