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## Confirmatory and comparative factor analysis of motivational factors of coaches working in Iran's top leagues (Case study of Isfahan and Lorestan provinces)

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**Abstract:** The aim of this study was to confirm the Herzberg two-factor health-motivational model among coaches working in the top leagues and to apply this model in Isfahan and Lorestan provinces. **Materials.** The measurement tool included a researcher-made questionnaire whose face and content validity was calculated by carefully examining the texts and literature of the research and consulting professors and experts (10 people), and the reliability of the questionnaire was calculated using Cronbach's alpha test ( $\alpha = 0.86$ ). Descriptive statistics (mean, standard deviation) and inferential statistics methods (second-order confirmatory factor analysis, Kolmogorov-Smirnov and t two independent samples) were used to analyze the data.

**Research methods.** The research method was descriptive-analytical and applied in terms of purpose. It was performed by field method. The statistical population included coaches working in 18 sports in the top leagues of Isfahan and Lorestan provinces. Using stratified random sampling method, 117 coaches from Lorestan province and 135 coaches from Isfahan province, with Sample volume calculations were selected using the Cochran's formula. The variables of this study included motivational factors derived from Herzberg health-motivational model. **Results.** The results showed that among the final pattern of motivation in Isfahan and Lorestan provinces, in terms of health factors, facilities and facilities (0.64) and salary (0.79) have the most impact and relationships with caregivers and Athletes (0.46) and working conditions (0.47) had the least impact. Also, among the motivational factors in these provinces, growth and development (0.67) in Isfahan and success (0.73) in Lorestan have the most impact and responsibility (0.40, 0.56) in both provinces. Were the least effective. In addition, there was a significant difference between the means of health factors in the two provinces, welfare facilities and job security ( $p < 0.05$ ).

**Conclusion.** In general, it can be acknowledged that the motivational factors of coaches in the province are different, so that issues such as economic, cultural and social issues affect it.

**Keywords:** coaching motivation, Herzberg theory, health factors, motivational factors.

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### State the problem and the need for research

Understanding the motivational factors of employees and consequently improving their performance has long been one of the most important concerns of human resource managers (Thompson and Protas, 2006). Motivation is a structural hypothesis that is used to describe internal or external forces and creates intention, direction, intensity and stability of behavior (Maleki and Mohammadzadeh, 2010). People's motivation to do work depends on two

things: the power of the need and the belief that the action satisfies the need (Summerfeld, 2010). But it must be acknowledged that motivation is not a simple concept, but a complex combination of needs, drives, tensions, frustrations, and expectations (Smith, Gritman, & Rigin, 2001).

The issue of motivation is one of the topics that is considered for the collection of human resources in sports, including coaches, athletes, referees, spectators and other service forces (Naderian

and Qudussi, 2014). Motivation in sports can be considered as a personal need to achieve realistic goals, receive positive feedback and experience the feeling of doing and completing a task. However, some people are motivated to avoid failure instead of trying to achieve risky success (Sawyer, Seri & Talagir, 2014).

The importance and knowledge of the motivation effect on the performance of different athletes is one of the topics that has been considered by many researchers. Today, much of the literature and knowledge in the field of sports relies on motivational behavior as well as individuals' perceptions of this motivation (Kentodimonplus et al., 2009; Todorwijge and Courtner, 2002). Examining the behavior of sports coaches and the effects they have on the behavior and motivation of athletes can be of great help in improving the relationship between athlete coaches as well as making better decisions and planning, which in turn leads to the preparation of sports teams. (Irji Naqandar, Moshiri and Khabiri, 2013). On the other hand, the position of the coach as a leader and the attitudes of coaches towards athletes and the effects they can have on athletes, highlight the need to pay more attention to this important issue (Smith et al., 2016).

Motivating coaches and athletes is one of the most important tasks of sports managers, and in this regard, the more people have satisfied needs, the more rational and logical their performance in competitions and their behaviors during competitions will be. Therefore, one of the important tasks of sports clubs is to know the ways to create and strengthen motivation in two important human groups, namely coach and athlete (Naderian, 2016). The results of Nowruz and Kordabadi (2017) research showed that skill performance is significantly related to the motivation of coaches and coaches show more motivation for their skill performance if they have motivational factors such as training opportunities or other required resources. The findings of Rochi and Plutcher (2016) also showed that independence in the performance of coaches supports their emotional needs and increases their motivation. Also, the psychological needs of coaches and their motivation for coaching affect the influence of their behaviors in athletes and environmental factors also

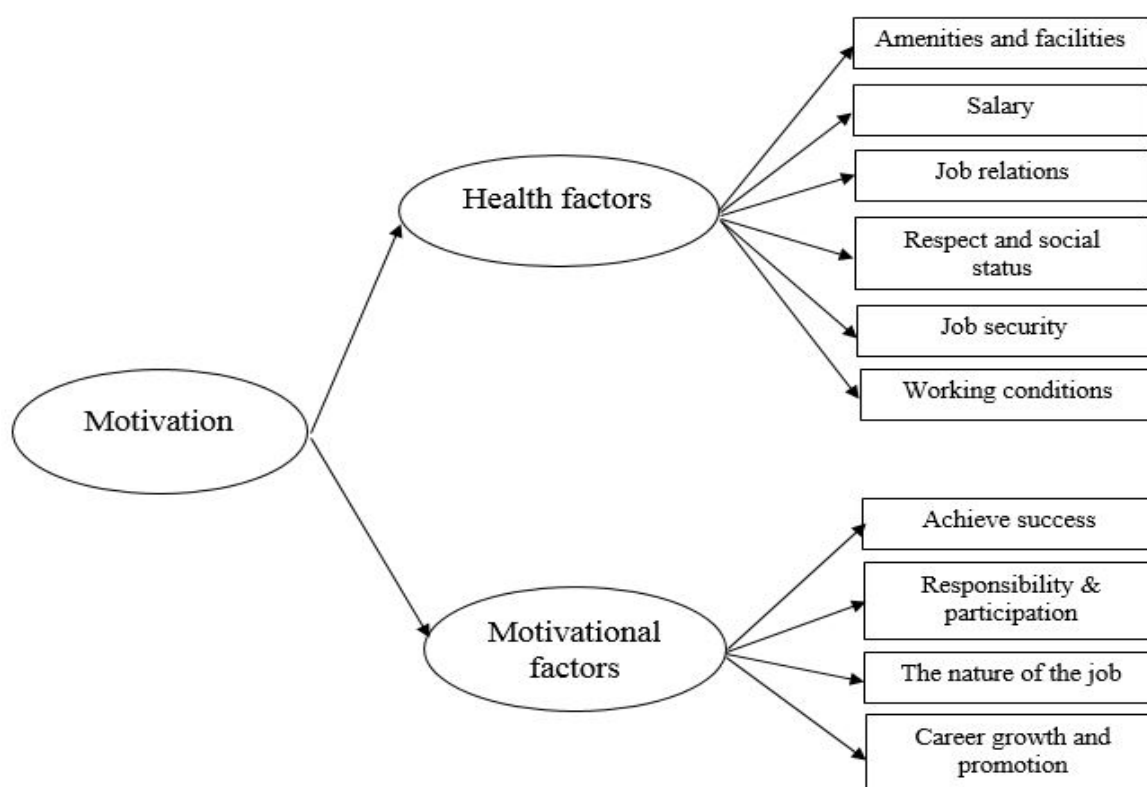
affect the motivation and continuation of coaches' behavior.

Studies show that coach's motivation is very important because it not only affects their satisfaction and well-being, but also the coach's leadership behaviors, as well as their interactions with athletes, managers and spectators. Series and Talagir, 2014). In such situations, sports managers must identify motivating factors among coaches and athletes based on time and place. Motivated trainer can affect his environment and as a key factor to influence various factors such as cognitive, emotional and behavioral of the athlete (Eddie, Doda and Netomenis, 2008). Coach motivation can also be used as an independent or controlling variable due to factors such as athlete motivation (Amors and Butcher, 2007), enjoyment of participation in sports (Boyxados et al., 2004) and maintaining the determination to continue sports activities (Pletcher). Et al., 2001).

If the causes or dissatisfaction of coaches with their profession are identified, more fundamental efforts can be made to improve and enhance working conditions as well as to increase their satisfaction; because when a person feels satisfied with his job, the subconscious will fulfill its responsibility more carefully and will be happy with it (Modi and Pesot, 2006). In contrast, apathy will not only reduce the efficiency of coaches and athletes, but will also cause coaches to become exhausted and worn out. The results of Vahdani, Paymazd and Reza Soltani (2016) showed that among different factors of arousal, lack of motivation has the greatest relationship with the analysis of burnout in the field of sports both among coaches and athletes. Also, the results of the Arabic study of Aisk et al. (2010) indicated that the subscales of motivation are the most important predictors of sports burnout. In addition, by examining the different levels of sports competitions and contests, it is often observed that many athletes, despite having high levels of functional abilities and skills, due to lack of motivation and misbehavior on the part of Coaches are not able to use all of their abilities, and as a result, insufficient motivation among athletes reduces their accuracy, focus, thinking, attention, decision-making and mastery, which in turn reduces efficiency and quality. Athlete

performance levels occur (Joyte et al., 2017). Understanding motivation can be used as a valuable tool to identify the causes of behavior in organizations and predict the effects of managerial actions. Also, by recognizing motivation, behaviors can be directed in organizations in such a way that individual and organizational goals are met (Qarahkhani, Koozechian and Ehsani, 2008). Unfortunately, identifying the factors that motivate educators is not easily possible, but familiarity with motivational theories is the first step in understanding the complexity of human relationships and motivation (Randy, 2003). In fact, to increase knowledge and understanding of people about the behavior of coaches in sports clubs, the most useful way for club managers is to study the variables affecting motivation (Naderian,

2016). Undoubtedly, understanding the interests and behaviors of coaches is an important factor that can affect their performance (Yavoshi and Van, 2001) and play a role in the success or failure of individuals in their careers (Worley and Jol, 2006). Many theories and theories have been proposed in relation to motivation, one of which is Herzberg two-factor theory (Bahadori et al., 2015). According to this theory, the model of which is shown in Figure 1, health factors (external factors) are factors that are necessary but will not create job satisfaction. But motivational factors (internal factors) are factors that their presence leads to job satisfaction and their absence will cause job dissatisfaction (Landberg et al., 2009; Marika et al., 2009). Figure 1 shows the conceptual model of this research based on Herzberg theory of motivational and health factors.



**Figure 1. Conceptual model of research, derived from Herzberg health-motivational theory**

Factors influencing motivation are varied, but most research focuses on factors such as salaries and benefits and rewards, welfare facilities, position and status, growth and development at work, job security and responsibility (Mattia and Abroudan, 2016, Bahadori and Et al., 1394). Human dignity

also means to be loved and noticed and loved by others and is one of the internal motivational factors (Naderian, 2016). Thinkers such as Weber, Durkheim, Smith, Veblen, Lutz and Sear have stated that one of the main results of human dignity at work is that it leads to an ethical, balanced and

socially stable organization (Afkhani et al., 2014).). Also awareness of work results; The amount of information that a person receives about the results of performance and programs performed and the amount of information that is given to him in this regard are also motivating factors in the environment. The participation of coaches as the most central force in the success of clubs in club-related decisions and the use of their opinions makes their coaches share in the fate and successes and failures of the club, and this The subject evokes positive arousal among them (Kurtz et al., 2017).

On the other hand, it should be acknowledged that motivational factors, in addition to diversity, are also influenced by social, economic and cultural factors (Shang, Pintrach and Mies, 2008). Vanhae et al. (2015) in a comparison on sports coaches in France and Finland showed that in different environmental conditions, motivational factors are different, but motivational factors strongly affect the performance of coaches. Given the above and the importance of motivation among coaches, it is necessary for club managers and sports delegations to correctly identify and transfer the factors affecting the motivation of coaches as well as athletes to them and then to establish an effective motivation system. . Therefore, in this research, after identifying the factors affecting the motivation of coaches based on Herzberg theory in Lorestan and Isfahan provinces, a comparative study of these two is also conducted.

### **Research methodology**

The method of the present research is descriptive-survey in terms of research method and applied in terms of purpose. The statistical population of the study included all coaches working in the top leagues of 18 sports in Isfahan and Lorestan provinces, which using the information obtained from the sports and youth departments of Isfahan and Lorestan, their number was 214 and 169, respectively. Then, using stratified random sampling method, 135 instructors from Isfahan province and 117 instructors from Lorestan province were selected by calculating the sample size through Cochran's formula. The variables of this research are motivational factors derived from Herzberg's health-motivational model, which include: the nature of coaching work, growth

and development in work, success, participation, working conditions, respect and social status, total coaches' income, job security in the club, facilities Welfare and facilities and relationships with supervisors and athletes. A researcher-made questionnaire based on a five-point Likert scale was used to collect the required information. In the study of face and content validity, while carefully reviewing the texts and literature of research on motivational factors and consulting professors and experts, a questionnaire was provided to professors and experts in sports sciences (10 people) to examine the relevance, clarity and simplicity of each question. To take. After reviewing the opinions of professors and experts and based on the Waltz and Basel index, all questions obtained a coefficient above 0.79. After this stage, the questionnaire was given to 30 respondents and the reliability of the questions and the whole questionnaire (0.86) were examined. At this stage, all the questions had high reliability. To test the hypotheses at the level of descriptive statistics, statistical indicators such as frequency, percentage, mean, standard deviation and at the level of inferential statistics, confirmatory factor analysis, calmograph-Smirnov test and t-test were used as two independent samples.

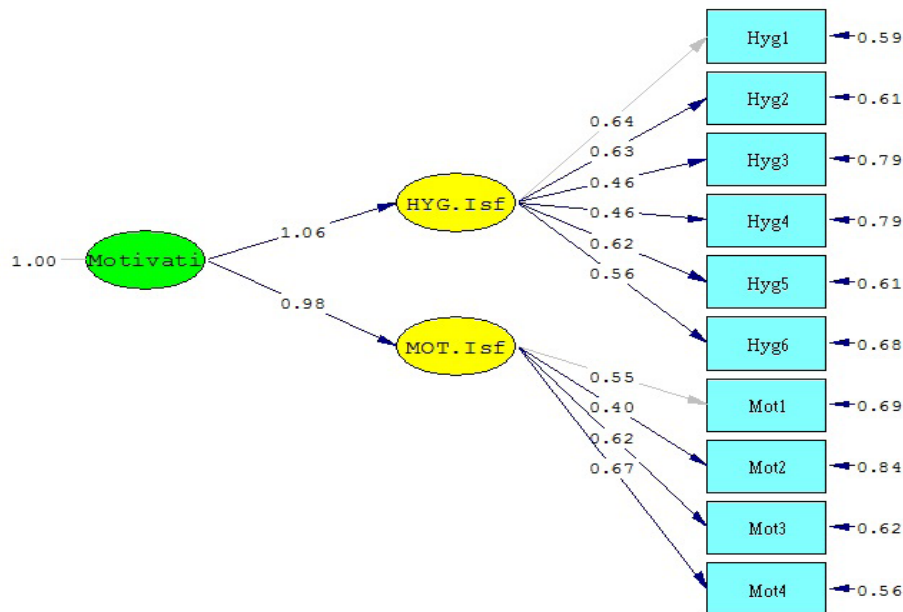
### **Research Findings**

Descriptive results of the study showed that out of 135 trainers selected as a statistical sample of Isfahan province, 63.2% were male and 36.8% were female, of which 51.6% were between 20-30 years old, 29.5% were between 31-40 years old, 10.7% were between 41-50 years old and 8.2% were between 51-70 years old. Also, of these 135 sample instructors, 44.3% had a master's degree or higher and 55.7% had a bachelor's degree or less. Another descriptive result was the work experience of coaches, 39.3% had work experience between 1-5 years, 33.6% had work experience between 6-10 years and 27% had more than 10 years work experience.

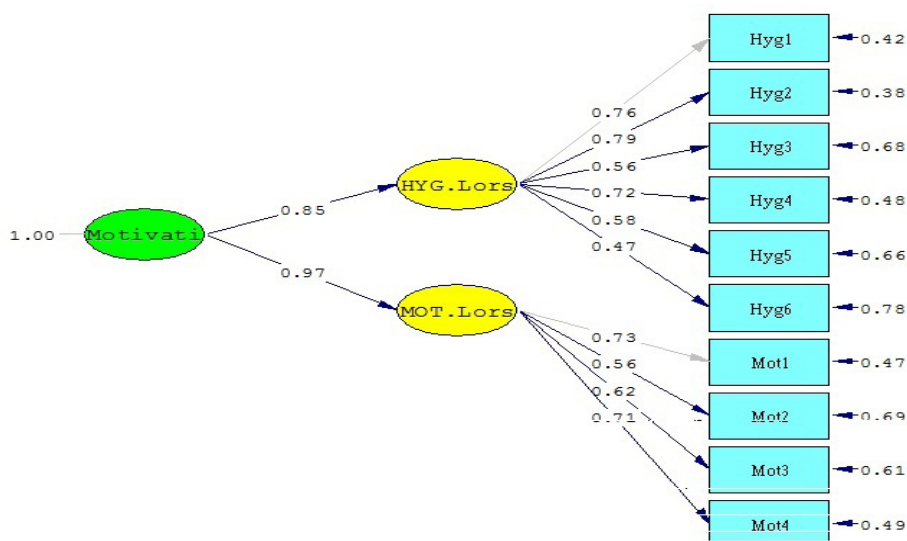
However, out of 117 coaches selected as the statistical sample of Lorestan province, 78.1% were male and 21.9% were female, of which 33.6% were between 20-30 years old, 38.7% were between 31-40 years old. 22.9% were between 41-50 years old and 4.8% were between 51-70 years old, which indicated that the number of

male coaches in Lorestan province is more than Isfahan province. Also, most of the coaches in Isfahan were in the age group of 20-30, while this case was related to the age group of 31-40 years for Lorestan province. Also, out of 117 research samples, 31.7% had a master's degree or higher and 68.3% had a bachelor's degree or less. Regarding the work experience of Lorestan province, 38.6% had work experience between 1-5 years, 41.7% had work experience between 6-10 years and 19.7% had more than 10 years work experience. Then, in the inferential findings section, the second-

order confirmatory factor analysis was used to determine the motivational factors of the coaches of both provinces, which are shown in Figures 2 and 3. In Figures 2 and 3, the health factors HYG1 to HYG6 are welfare facilities, total income, relationship between coaches with supervisors and athletes, social respect and dignity, job security and working conditions, respectively. Motivational factors of MOT1 to MOT4 also included sporting success, responsibility, coaching nature, growth and progress at work, respectively. The following models also confirm the construct validity of the research tool.



**Figure 2, Model of standardized coefficients of motivational factors of coaches in Isfahan province**



**Figure 3, Model of standardized coefficients of motivational factors of coaches in Lorestan province**

The results of Table 1 show that the indices of chi-square ratio to the degree of freedom of CMIN / DF in each province of Isfahan and Lorestan were equal to 1.98 and 2.031, respectively, as well as the goodness indicators of GFI fit and the index CFI and IFI adaptive fit indices are more than 0.90, PGFI

economical fit goodness index is more than 0.5 and RMSEA index for two provinces is less than 0.1, which means that the research models for both It has a good fit and the factor structure considered is acceptable for both provinces.

**Table 1. Research tool model fit indices**

status	Optimal value	Isfahan	Lorestan	Indicator
-	-	54.34	56.69	$\chi^2$
Optimal	< 0.90	0.97	0.91	GFI
Optimal	< 0.90	0.96	0.92	CFI
Optimal	< 0.90	0.94	0.92	IFI
Optimal	< 0.50	0.83	0.77	PGFI
Optimal	≥ 0.5	0.069	0.076	RMSEA
Optimal	1 - 3	1.98	2.031	CMIN/DF

Then, to test the hypothesis of comparing the means of the two groups and to determine which category of statistical tests can be used, first, to examine the normality of the whole data, Kolmogorov-Smirnov test was used.

**Table 2. Test for data normality**

Sig	Df	Test statistics	Variables
0.11	251	0.273	Amenities and facilities
0.085	251	0.257	Salary
0.096	251	0.215	Relationships with supervisors and athletes
0.113	251	0.244	Respect and social status
0.076	251	0.247	Job security in the club
0.103	251	0.250	Working conditions
0.115	251	0.249	Achieve success
0.14	251	0.234	Coaching responsibility
0.082	251	0.300	The nature of coaching work
0.071	251	0.237	Career growth and promotion

According to Table 2, the sig of all variables is more than 0.05. Therefore, it cannot be claimed with 95% confidence that the Ho hypothesis that the data is normal is rejected. In other words, for all variables, the Ho hypothesis - the normality of the data - is confirmed. Therefore, due to the normality of the data, independent t-test was used to compare the average motivational factors of sports coaches in Isfahan and Lorestan provinces.

In this test, it must first be decided whether the variance of the two groups is equal in terms of the variables considered. In the output of Levin test, if the significance level is less than the error rate, the inequality of variances can be inferred. Let's base the significance in the first row of the table (Azar and Momeni, 2009). According to Table 3, because the decision criterion for equality of variances is less than 0.05 ( $p < 0.05$ ), so in the variables of welfare facilities, the nature of work and growth of the assumption of equality of variances and in the rest of the variables confirm the assumption of inequality of variance. Also, in the case of averages, only two variables of facilities and job security have a significant difference ( $p < 0.05$ ).

Considering that the difference between the means is inferred in Table 3, so in order to find out which community the mean is higher, one should pay attention to the amplitude of the mean difference

(Azar and Momeni, 2009). Because in the factor of facilities and facilities of both domains (-0.48207 and -0.831) has a negative sign, so welfare facilities in Lorestan province is less than Isfahan province and job security in Lorestan province due to the positive sign of both domains (+0.0502 and +0.58585) is more than Isfahan province.

**Discussion and conclusion**

According to the results obtained from the perspective of the statistical sample of trainers among the final pattern of motivation in Isfahan and Lorestan provinces, in terms of health factors, facilities and facilities (0.64) and salary (0.79) have the most impact and Relationships with supervisors and athletes (0.46) and working conditions (0.47) had the least impact. Health factors are factors whose

**Table 3. Independent t-test to compare motivational factors between coaches in Lorestan province and Isfahan province**

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Amenities and facilities	Equal variances assumed	12.264	.001	-2.804	250	.005	-.28319	.10098	-.48207	-.08431
	Equal variances not assumed			-2.753	215.690	.006	-.28319	.10288	-.48598	-.08041
Salary	Equal variances assumed	.660	.417	.752	250	.453	.09117	.12124	-.14762	.32995
	Equal variances not assumed			.744	230.671	.458	.09117	.12253	-.15026	.33259
Relationships with supervisors and athletes	Equal variances assumed	1.421	.234	-.182	250	.856	-.02393	.13139	-.28271	.23485
	Equal variances not assumed			-.181	234.719	.857	-.02393	.13246	-.28489	.23702
Respect and social status	Equal variances assumed	.626	.429	.515	250	.607	.06667	.12941	-.18820	.32153
	Equal variances not assumed			.517	248.247	.605	.06667	.12885	-.18712	.32045
Job security in the club	Equal variances assumed	.595	.441	2.358	250	.019	.27293	.11572	.04502	.50085
	Equal variances not assumed			2.337	233.069	.020	.27293	.11679	.04285	.50302
Working conditions	Equal variances assumed	3.028	.083	1.306	250	.193	.17151	.13134	-.08716	.43018
	Equal variances not assumed			1.297	236.226	.196	.17151	.13227	-.08907	.43209
Achieve success	Equal variances assumed	2.525	.113	-.841	250	.401	-.09801	.11650	-.32745	.13144
	Equal variances not assumed			-.846	248.680	.399	-.09801	.11591	-.32629	.13028
Coaching responsibility	Equal variances assumed	.922	.338	1.652	250	.100	.22051	.13348	-.04238	.48340
	Equal variances not assumed			1.645	240.370	.101	.22051	.13402	-.04350	.48453
The nature of coaching work	Equal variances assumed	9.612	.002	1.847	250	.066	.20570	.11136	-.01362	.42502
	Equal variances not assumed			1.822	225.334	.070	.20570	.11289	-.01675	.42815
Career growth and promotion	Equal variances assumed	7.021	.009	-.560	249	.576	-.05843	.10437	-.26399	.14713
	Equal variances not assumed			-.566	248.997	.572	-.05843	.10321	-.26170	.14484

absence causes dissatisfaction and complaints, and if the above factors and conditions are provided, the person's dissatisfaction will decrease, so that gradually the person will be indifferent to the subject. Results. This set of factors is the preserver of the current situation or the provider of mental health and almost these factors with different intensities and coefficients were the expectations of the coaches of the two provinces. According to the research results, in general, educators in Isfahan province considered health factors as more important than motivational factors. Herzberg also believed that health factors were more important than motivational or internal

factors, because external factors were necessary at work and their absence would cause problems. The results of research in this field are consistent with the results of research by Kentodimonplus et al. (2009), Askarian and Bagheri (2012). While the results obtained from the perspective of Lorestan coaches in this case are not consistent with the results of Isfahan coaches and they consider the impact of internal factors in creating motivation is very important. The results of Taherpour, Sefidi and Javadi (2010) also consider internal factors to be more important in creating motivation than health or external factors. On the other hand, the results

of research by Lou et al. (2009) and Bahadori et al. (2015) showed that among health factors, salary is the most important motivational factor, which is consistent with the results of coaches' research in Lorestan province. Of course, the reason for the differences in the results of different studies can be considered as job differences, which in turn create different environmental, economic, social and cultural conditions for them, which change the impact of different factors on motivation.

In addition, among the means of health factors in the two provinces, only two factors of welfare facilities and job security had a significant difference ( $p < 0.05$ ). The results showed that the welfare facilities and facilities of coaches in Lorestan province were less than Isfahan province. This may be due to the metropolitan area of Isfahan and the existence of two major clubs, Mobarakeh Sepahan Steel and Isfahan Steel. Undoubtedly, the presence of large sports facilities and equipment and presence in international sports arenas will provide better facilities and facilities for coaches. This was also evident in the working conditions of the coaches of Lorestan province, which has the least motivational effect (0.47). But according to the results of the research, the job security of coaches in Lorestan province was higher than Isfahan province. Sensitivity of the competition level, lack of desired results, the existence of competing coaches and failure to meet the expectations of supervisors are among the effective factors in this regard. As the results of the study from the perspective of coaches in Isfahan province also showed that the factor of relationships with supervisors and athletes has the least effect (0.46) on the motivation of coaches. While the results of Sawyer, Siri and Talagir (2014) and Rochi and Plutcher (2016) research showed that understanding the needs and behavior of coaches and establishing a sincere relationship between coaches and supervisors will motivate progress.

Also, the results of the research from the perspective of statistical sample trainers of the two provinces showed that among the factors of motivational dimension, growth and progress (0.67) in Isfahan and success (0.73) in Lorestan has the most impact and responsibility (0.40, 56). / o) had the least impact in both provinces. Motivational factors are

factors whose presence causes motivation and their absence does not reduce the amount of motivation and satisfaction. In fact, motivational factors improve and progress. In the studies of Labyris et al. (2008) and Landberg et al. (2009), job growth and development was determined as the most important motivational factor. But the results of Taherpour, Sefidi and Javadi (2010) showed that the nature of work is the most important factor of intrinsic motivation. On the other hand, the existence of excessive expectations from coaches about the responsibility of success or failure of teams and athletes in competitions and lack of job security in this profession, caused stress and reduced the impact of responsibility in motivating coaches in the two provinces. Contrary to the results of this study, the findings of Bahadori et al. (2015) showed that among the motivational factors, the responsible factor has the most important effect on motivation. However, in the case of the average of motivational factors, in both Isfahan and Lorestan provinces, no significant difference was seen in these factors and the difference in the mean of these factors can be due to other factors such as environmental, cultural and economic in the two provinces. As the findings of Vanhaei et al. (2015) showed that in different environmental conditions, motivational factors are different.

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