



The role of ethical values and coaching styles in adherence to sports in group and individual athletes

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Article Info	Abstract
<p>Original Article</p> <p>Article history: Received: 20 August 2021 Revised: 28 August 2021 Accepted: 01 October 2021 Published online: 01 December 2021</p> <p>Keywords: adherence to sports, behaviors, coaching styles, ethics, invariable, Success.</p>	<p>Background: Regular exercise has been shown to have a positive impact on both physical and mental health. There is growing evidence to suggest that exercise can improve mood, reduce symptoms of anxiety and depression, and increase overall well-being.</p> <p>Aim: This study aimed to investigate the role of ethical values and coaching styles in adherence to sports in group and individual athletes.</p> <p>Materials and Methods: The statistical population of the present study included 350 athletes in group and individual disciplines in Mashhad, 296 of them were randomly selected as a statistical sample. Descriptive and inferential statistics were used for statistical analysis in the present study, which was done using SPSS 23 (Chicago) and LISREL 8.80 software.</p> <p>Results: The results of the Kolmogorov-Smirnov test showed that the research data have a normal distribution. The analysis results showed a significant relationship between coaching style and its components with adherence to sport and between ethical values and its components with adherence to the sport. Also, the regression analysis results showed that ethical values and their components and coaching styles and their components have the ability to predict adherence to the sport.</p> <p>Conclusion: Finally, it was found that the structural equation model of the relationship between ethical values and adherence to sport and coaching styles and adherence to the sport has a significant fit. According to the results of the research, it can be said that coaches and those involved in sports can, by properly explaining and presenting ethical values, as well as the correct use and application of coaching styles, encourage people in the community at all levels and especially athletes to adhere to physical activity and exercise.</p>

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1. Introduction

The successful completion of any task requires correct and efficient management, and the effective role of management in the success or failure of groups and organizations cannot be easily overlooked. Whenever a group tries to achieve a goal, usually someone takes the leadership and responsibility of the group. This person must have the skills and qualities necessary for leadership in order to guide the group members towards the goal [1].

In this regard, the coach in the position of a leader impacts adherence to sports and players' attitudes, and these attitudes generate behavioral motivations. Therefore, it is important to identify behaviors that encourage athletes to continue on their path. Coaching style actually means giving the team spirit, boosting team members' confidence, and training the skills needed for successful development and collaboration, while ensuring a sense of support from the coach. Research has shown that coaches who use supportive behaviors will significantly impact the ethics and behavior of their athletes [2].

Douge (1987) demonstrated the importance of a trained coach to help reduce the withdrawal of athletes from competitive sports [3]. Also, Douge (1987) [3] and Webb (2001) [4] suggest that coaches should be knowledgeable about preparing athletes and coordinating programs. Kenow and Williams (1999) also state that if the athlete's goals, personality, and beliefs are in line with the coach, their interaction will be better [5].

In this regard, another variable that can affect the adherence of people and athletes to physical activity and sports is ethical values. Ethics is a set of spiritual and esoteric traits of human beings that appear in the form of actions and behaviors that

arise from human inner creations, and so it is said that ethics can be defined through his works. Continuity of a certain type of behavior is the reason that this behavior has internal and esoteric roots. Humans have moral characteristics and values that shape their thoughts, speech, and behavior in the individual and personality aspects [3].

Considering the role and activity of humans in organizations, it will be interesting to study the role of ethical values on various aspects of individual performance in organizations. From this perspective, sports clubs or teams can be considered an organization in which ethical values can play a prominent role. Governments, sports institutions, and coaches can use this information to optimize the design of training programs [6].

In this field, the United Nations recognizes sport as a global language that provides a focus for people's energy, gives them valuable goals, and can teach them the values of hard work, discipline, and organization. According to the organization, sport provides a chat room for people to develop their leadership skills while helping to manage basic life skills such as success and failure. Few people run away from sports. Physical activity has always been a complementary part of the life of the person and family and has a great part in family relationships [6], and of course, is a suitable tool to fill people's leisure time. Sport provides a part of entertainment, educational, economic, and social experience and is effective in the sense of national pride and unity. In such an environment, the coach plays an important role [6].

The research on adherence to exercise and sports among athletes and young people was a priority seventeen years ago, but little

research has been done in this field. Contrary to expectations, the evidence shows that adherence to training programs is limited among some elite athletes. Despite the limited time, money, and research on training program design and potential performance benefits, it will be useful to identify the factors that affect athletes' adherence to these training programs [7].

Only recently has sports coaching become an important field for academic research and its impact on young people. Coaches, whether working with young children or professional athletes, are important personalities who act not only in the field of sports but also as role models, coaches, and leaders in society. In recent years, significant advances have been made in the field of sports coaching research [6].

Bentzen et al. (2020) showed that if educators do not have job security and their job value is not maintained, it will have many negative consequences, one of which is not paying attention to their job duties towards children [8].

Horn (1992) suggested in a study that the type of behavior that the coach shows has a significant impact on athletes' performance and psychological characteristics [9].

Nizam Bin et al. (2009) also believe that coaches should use coaching styles accepted by athletes to improve their performance. They also showed that in Malaysian university basketball teams, coaches use more of a democratic coaching style and less of an imperative coaching style. Also, the players were satisfied with training and exercise, coach behavior and interaction, team performance, and individual performance, respectively [10].

Khoran, Khabiri and Ehsani (2008) showed that there is a positive relationship between leadership behaviors perceived by athletes and their satisfaction [11]. But there was no significant relationship between imperative behavior and their satisfaction. In this regard, Ramezani Nejad et al. (2010), in a study on female athletes in group and individual fields in Mazandaran province, reported that athletes' satisfaction with support, appreciation, friendly behavior, and positive feedback from coaches, was more than other aspects and between the prize power that Part of the coaching style is relational, all components of athlete satisfaction are meaningful [6].

Effective leadership in sports is a function of implementing various plans and styles to meet the needs of athletes and achieve team goals. Therefore, coaches must pay attention to both the implementation of sports skills and people and teams' psychological and ethical skills [12].

It has been stated that exercise can cause the development of ethical or non-ethical behaviors in athletes [12]. In this dual space, adherence to sport becomes especially important. Researchers believe that young athletes who inherently enjoy exercise and competition are more likely to continue their athletic endeavors. In a study of elite swimmers, Medic et al. (2008) identified eight social factors influencing adherence to sport, one of which was coaching athletes [13]. Adherence to sports is an important factor in the continuity and persistence of people in sports activities [14].

In this regard, Scanlan et al. (1993) define adherence to sport as a psychological structure that reflects the desire and

determination to continue sports participation [15]. Coach behavior can indirectly affect athletes' performance and behavior. This indirect effect arises from the athlete's perception of the coach's behavior. Coaches can play a very important role in increasing an athlete's adherence or, conversely, his/her withdrawal from sports activities [14].

Most research on adherence to the sport has focused on its predictive role, such as participation in sports, rather than behavioral and psychological outcomes. Adherence to sport is primarily studied as a one-dimensional structure that is determined by the enjoyment of the activity, personal investments in the activity, the benefits and opportunities of the activity, the effect of attraction to other activities, and the limitations of the social environment. So far, research on this one-dimensional structure has reported conflicting results. For example, Weiss, Weiss, Weiss and Amorose (2010) found no direct effect of adherence on behavioral outcomes in their study of competitive female gymnasts [16].

In contrast, Casper, Gray and Stellino (2007) studied recreational tennis players and found that adherence to tennis was a predictor of how often they participated in the exercise [17].

In this regard, Qare, Rezaei Sufi and Zardi (2019), by examining the effect of a planned pattern of exercise behavior to adhere to public sports activities in order to increase student health, concluded that the theory of a planned pattern of behavior could explain students' participation in public sports [18].

As suggested earlier, adherence to sports programs in the elders, can significantly impact life expectancy, quality of life, and care costs [14].

Given the above, it is possible to understand the importance of ethical values and ethics and coaching styles in people's adherence, especially athletes, to continue and perform physical and sports activities. Also, the necessity of research also depends on the following factors:

1. Lack of attention to moral values in today's sports
2. The special role of coaches and managers in the development of moral values
3. Differences in moral values between team and individual sports
4. The society's high expectations from high-level athletes in adhering to illegal issues.

Therefore, in this study, by examining the role of ethical values and coaching styles in the adherence of group and individual athletes to sports, it was determined whether the proper training of ethical values by coaches to athletes and also the use of coaching styles by them in an appropriate manner, can play a role in the level of adherence of these people to physical activity and sports? It is hoped that a small step can be taken to build commitment and adhere athletes to sports activities by answering this question.

2. Materials and Methods

The method of the present study was applied in terms of purpose and in terms of descriptive-correlation type, the data of which were collected in the field using a questionnaire. The statistical population of the study included group and individual athletes in Mashhad and their coaches.

According to unofficial statistics, 300,000 people are members of sports clubs in Mashhad, and sampling was done among the group and individual athletes active in

Mashhad. Finally, the statistical sample included 350 athletes in group and individual fields.

It should be noted that among the questionnaires that were distributed in person and online, 221 questionnaires were completed and relapsed that among these numbers, and after deleting the uncompleted questionnaire, the information of 196 questionnaires was acceptable, and the data were analyzed based on this number.

The Kolmogorov-Smirnov test was used to test the normality of variables. Therefore, according to the statistical methodology of the present study, the sample selection, including correlation studies, was estimated to be 5 to 10 times the number of research questions and simple random. For this reason, analyzes were performed on the same number of questionnaires and there was no statistical problem. Also, three standard questionnaires were used to collect research data.

The exercise Adherence Questionnaire [19] has 12 items and three components of empowerment (items 1 to 4), predisposing (items 5 to 8) and reinforcing (items 9 to 12). Standard Questionnaire of the Leadership Scale in Sports [20], which has 40 items and 5 components of education (items 1 to 13), imperative (items 14 to 18), democratic behavior (items 19 to 27), Social support (items 28 to 35) and positive coach feedback (items 36 to 40). The third questionnaire includes the Questionnaire of Ethical Values [21], which has 9 items and 4 components of ethical behaviors (items 1 and 2), ethics and success (items 3 and 4), tolerance of unethical behaviors (items 5 to 5) and punishment for unethical behaviors

related to personal interests (items 8 and 9).

Because some minor changes were applied in the questionnaires, the opinions of 7 sports management experts were used to confirm the validity of the questionnaires, Cronbach's alpha test was used the reliability of the questionnaires for ethical values was 0.82, coaching styles was 0.78, and adherence to sports was 0.80.

Finally, the collected data were analyzed using descriptive and inferential statistics. In the descriptive statistics section, central indicators, dispersion indices, percentages, frequency distribution tables, data graphs, etc. were discussed. In the inferential statistics section, the Kolmogorov-Smirnov test, Pearson correlation coefficient test, and simultaneous regression test were used to analyze the findings and test the hypotheses. Finally, the structural equation model of the relationship between research variables was fitted. It should be noted that all analyzes were performed using SPSS 23 and LISREL 8.80 software.

3. Results

First, the demographic features of the sample are examined. According to the findings, it was found that 78 people (39.8%) of the sample were men and 118 people (60.2%) were women. Based on education, it was found that 22 of the subjects had a diploma and below (10.7%), 79 had a bachelor's degree (40.3%), and 96 had a master's degree or higher (49.0%). The study of the age status of the subjects also showed that 31 subjects were under 20 years old (15.7%), 66 persons between 20 and 30 years old (33.3%), 92 persons over 30 years old (46.5%), and 9 persons (4.5%) did not declare their age. Based on the history of participating in national teams, 37

subjects in the national youth team (18.9%), 63 in the national youth team (32.1%), and 43 in the national adult team (21.9%) 53 people (27.0%) did not declare their status. Then, using the Kolmogorov-Smirnov test, the normality of the research data distribution was investigated. It was found that the data have a normal distribution, and therefore parametric tests can be used to test the hypotheses of the present study. In Table 1, the information related to the

Kolmogorov-Smirnov test was reported.

Table 1. Kolmogorov Smirnov test results

Variable	P	Result
Adherence to practice	0.36	Normal
Leadership in sports	0.18	Normal
Moral values	0.61	Normal

After determining the normality of the research data, using the Pearson correlation test, the relationship between the variables was investigated (Table 2).

Table 2. Test of the correlation between ethical values and their components with adherence to sport

Variable	Pearson correlation	Significance level
1 Ethical values and adherence to sport	0.17	0.001
2 Ethics and success and adherence to sports	0.19	0.008
3 Tolerance of unethical behaviors and adherence to sports	0.025	0.001
4 Punishment for unethical behaviors related to personal interests and adherence to sports	0.33	0.001
5 Ethical values and adherence to sports	0.27	0.011

As can be seen in Table 2, there is a positive and significant relationship between ethical values and all its components with adherence to sports ($P < 0.05$), so that the correlation between them is reported to be optimal. Then, simultaneously using the regression test, the adherence to the sport was predicted by the components of ethical values.

As shown in Table 3, the Watson camera statistic value, which should be a number between 1.5 and 2.5, was 2.40.

Also, the correlation coefficient and the coefficient of explanation between the scores of the components of ethical values and adherence to the sport have been determined. It is related to the components of ethical values. Also, as can be seen, the Fisher test is equal to 14.457, and the level of error is equal to 0.001, so the effect of the components of ethical values on adherence to sport is confirmed. The results of the regression test analysis are presented below.

Table 3. Regression test to predict adherence to the sport through the components of ethical values

R	R ²	R ² adjusted	Coefficient of explanation criterion error	Watson camera statistic	Significance level
0.48	0.23	0.21	0.24146	2.40	0.001
Source of changes	Sum of squares	Degrees of freedom		Fisher statistics	Significance level
Intergroup	3.372	4	0.843	14.457	0.001
Intragroup	11.136	191	0.058		
Total	14.507	195			

Table 4 is used to write the regression equation formula. According to this table and the levels of significance, the formula for calculating adherence to exercise is as follows:

$$\text{Adherence to sports} = 1.350 + 0.184 * (\text{ethical behaviors}) + 0.284 * (\text{Punishment for unethical behaviors})$$

Then, using structural equation modeling, the relationship model between

ethical values and adherence to the sport was fitted.

The results of the fit indexes model in Table 6 show that the fit indexes have an acceptable value and the fit indexes are at the desired level and higher than 0.9. Therefore, the research model based on the effect of ethical values on adherence to sport is confirmed. In the following, the relationship between coaching styles and adherence to sport is examined.

Table 4. Model coefficients

	Non-standardized coefficient		Standardized coefficient		
	B	SE	Beta	t	sig
Invariable	1.350	0.080		1.8406	0.001
Ethical behaviors	-0.102	0.035	-0.184	2.884	0.004
Ethics and success	0.040	0.021	0.164	1.922	<u>0.056</u>
Tolerance of unethical behaviors	0.054	0.040	0.096	1.366	<u>0.17</u>
Punishment for unethical behaviors	0.090	0.029	0.284	3.086	0.002

Table 5. Regression coefficients of the model of the relationship between ethical values and adherence to sport

		Factor loading	Value of T	Significance level
Ethical behaviors	→ Ethical values	0.67	7.90	0.001
Ethics and success	→ Ethical values	0.75	9.97	0.001
Tolerance of unethical behaviors	→ Ethical values	0.63	7.05	0.001
Punishment for unethical behaviors	→ Ethical values	0.86	11.20	0.001
Empowerment	→ Adherence to sports	0.66	4.15	0.001
Predisposing	→ Adherence to sports	0.47	4.01	0.001
Reinforcing	→ Adherence to sports	0.91	4.00	0.001
Ethical Values	→ Adherence to sports	0.60	6.67	0.001

Table 6. indexes of fit communication model of ethical values and adherence to sport

Fit indexes	Indexes value	Acceptable values	Explanation
Chi-square	89.24		
Degree of freedom	34		
Chi-square ratio to degree of freedom (χ^2 / df)	2.62	1-3	Desired
Root Mean Square Error of Approximation (RMSEA)	0.069	<0.1	Desired
Index (AGFI) adapted GFI	0.91	>0.9	Desired
Normalized Fit Index (NFI)	0.93	>0.9	Desired
Goodness Fit Index (GFI)	0.94	>0.9	Desired

In Figures 1 and 2, the general relationship model between ethical values and adherence to sport is reported. As can be seen, all factor loads (standardized regression coefficients) and T values (critical ratio values) of the relationship between the research variables and their components have acceptable values, and

these indices show that the observed observation variables are as well as the reflection of hidden variables (ethical values and adherence to sports). The results also showed that ethical values could have a positive and significant effect equal to the path coefficient of 0.60 on adherence to exercise (Sig= 0.001, T= 6.67).

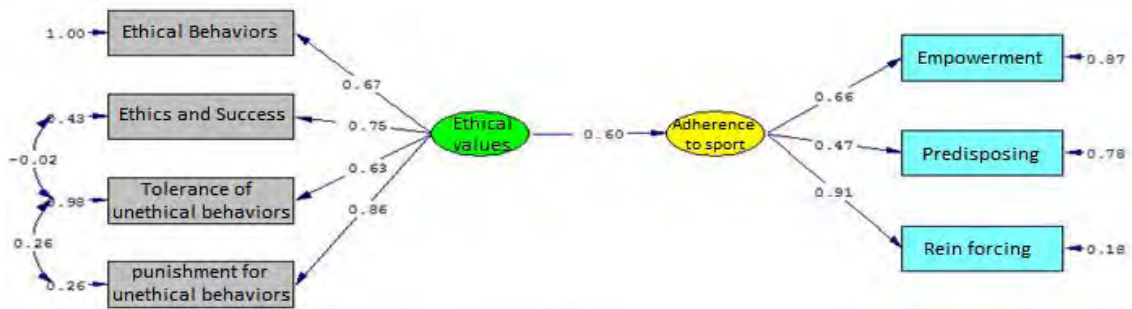


Figure 1. Structural equation model of the relationship between ethical values and adherence to sport in the standard state

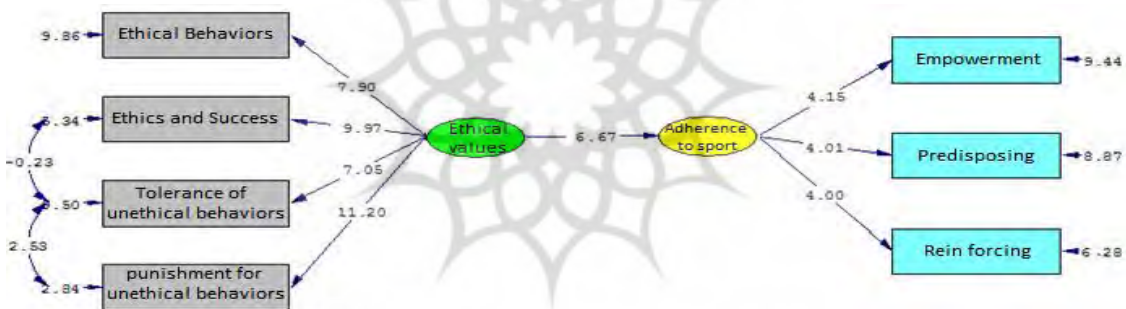


Figure 2. Structural equation model of the relationship between ethical values and adherence to sport in the statistical state of T

As can be seen in Table 7, there is a positive and significant relationship between coaching styles and all their components with adherence to sport ($P < 0.05$), so that the correlation between them is reported to the desired level. Then, using the regression test in a simultaneous manner, the adherence to sports was predicted by the components of coaching styles.

As shown in Table 8, the statistic value of the Watson camera was 2.45. Also, the correlation coefficient and the coefficient of explanation between the scores of the

components of coaching styles and adherence to the sport have been determined that correlation coefficient is equal to 0.51 and the correlation of explanation is equal to 0.24 that can be stated 24 percent of variables to adherence to the sport are related to coaching styles. Also, as can be seen, the Fisher test is equal to 13.479, and the error level is equal to 0.001, so the effect of the components of coaching styles on adherence to sport is confirmed. The results of the regression test analysis are presented in Table 9.

Table 7. Test of correlation between coaching styles and their components with adherence to sport

Variable	Pearson correlation	Significance level
1 Training and exercise and adherence to sports	0.22	0.002
2 Imperative behavior and adherence to sports	0.25	0.001
3 Democratic behavior and adherence to sports	0.39	0.001
4 Social support and adherence to sports	0.21	0.003
5 Positive coach feedback and adherence to sports	0.21	0.003
6 Coaching styles and adherence to sports	0.26	0.001

Table 8. Regression test to predict adherence to the sport through components of coaching styles

R	R ²	R ² adjusted	Coefficient of explanation criterion error	Watson camera statistic	Significance level
0.51	0.26	0.24	0.23741	2.45	0.001
Source of changes	Sum of squares	Degrees of freedom		Fisher statistics	Significance level
Intergroup	3.799	5	0.760	13.479	0.001
Intragroup	1.0709	190	0.056		
Total	14.507	195			

Table 9. Model coefficients

	Non-standardized coefficient		Standardized coefficient	t	sig
	B	SE	Beta		
Invariable	1.482	0.287		5.127	0.001
Training	-0.102	0.058	-0.119	1.753	<u>0.08</u>
Imperative	-0.093	0.032	-0.198	2.901	0.004
Democratic	0.152	0.029	0.395	5.241	0.001
Social support	0.009	0.054	0.013	0.176	<u>0.86</u>
Positive feedback	0.061	1.430	0.103	1.430	<u>0.15</u>

Table 10. Regression coefficients of the model of relationships between coaching styles and adherence to sport

			Factor loading	Value of T	Significance level
Training	→	Coaching styles	0.81	7.17	0.001
Imperative	→	Coaching styles	0.60	7.90	0.001
Democratic	→	Coaching styles	0.74	9.65	0.001
Social support	→	Coaching styles	0.62	8.02	0.001
Positive feedback	→	Adherence to sports	0.60	7.78	0.001
Empowerment		Adherence to sports	0.87	4.21	0.001
Predisposing	→	Adherence to sports	0.87	4.21	0.001
Reinforcing	→	Adherence to sports	0.47	4.05	0.001
Coaching styles	→	Adherence to sports	0.90	0.04	0.001

Table 9 is used to write the regression equation formula. According to this table

and the levels of significance, the formula for calculating adherence to sport is as

follows:

$$\text{Adherence to sports} = 1.482 + 0/119 * (\text{imperative}) + 395 * (\text{democratic})$$

Figures 3 and 4 show the general relationship model between coaching styles and adherence to the sport. As can be seen, all factor loads (standardized regression coefficients) and T values (critical ratio values) of the relationship between the research variables and their components have acceptable values, and these indices show that the observed observational variables are as well as the reflection of

hidden variables (Coaching styles and adherence to sports). The results also showed that coaching styles can have a positive and significant effect equal to the path coefficient of 0.64 on adherence to sports (Sig = 0.001, T = 9.73).

The results of model fit indexes in Table 11 show that the fit indexes have an acceptable value and the fit indexes are at the desired level and higher than 0.9. Therefore, the research model based on the effect of coaching styles on adherence to sport is confirmed.

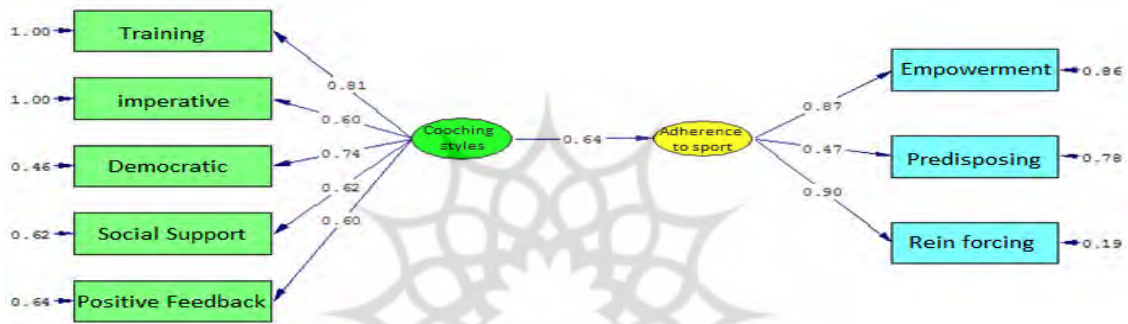


Figure 3. Structural equation model of relationships between coaching styles and adherence to sport in the standard state



Figure 4. Structural equation model of relationships between coaching styles and adherence to sport in the statistical state of T

Table 11. Indicators of fit communication model of coaching styles and adherence to sports

Fit indexes	Indexes value	Acceptable values	Explanation
Chi-square	97.56		
Degree of freedom	34		
Chi-square ratio to the degree of freedom (χ^2 / df)	2.86	1-3	Desired
Root Mean Square Error of Approximation (RMSEA)	0.075	<0.1	Desired
Index (AGFI) adapted GFI	0.90	>0.9	Desired
Normalized Fit Index (NFI)	0.92	>0.9	Desired
Goodness Fit Index (GFI)	0.95	>0.9	Desired

4. Discussion

According to the results and findings of the study, it was found that there is a significant relationship between ethical values and adherence to sports in group and people fields, which is consistent with the findings of Yousefi et al. (2016) [22], Guiverna and Duda (2002) [23], and Rosa (2015) [24]. In this regard, Yousefi et al. (2016) also found a positive and significant correlation between coaches' ethical expectations and the likelihood of aggression in athletes. Researchers in this study stated that coaches should try to observe the values in sports in the first place because athletes imitate their behaviors and use positive reinforcements about appropriate behaviors to establish them in athletes [22].

Guiverna and Duda (2002) also stated in a study that athletes interact with people such as coaches and teammates so that their values, behaviors, and beliefs depend on their attitudes, decisions, and actions [23]. In fact, it provides a general framework for team ethics. Sports coaches have the most power to influence their students. With proper ethical behavior, coaches can increase the importance of ethical behaviors and help their athletes develop responsibility, respect, teamwork, accountability, time management skills, and coping with failure and success.

Rest (1984) stated that a fundamental aspect of ethics is ethical behavior. To understand behavior, one must know the processes underlying ethical action. The belief that sport should be done in full harmony with the principles and values of ethics, human relations, social inclusion, and equality of opportunity is a fundamental aspect of sport heritage [25].

Furthermore, it was found that there is

a significant relationship between coaching styles and adherence to sports in group and individual fields that this finding is direct and coordinated with research results of Mohammadi and Dolati (2016) [26] and Castillo and Spinoza (2014) [27] and is indirect and uncoordinated with the research of Mohaddes et al. (2010) [28] and Nizam Bin et al. (2009) [10].

In this regard, Mohaddes et al. (2010), in a study on professional athletes in Iran, stated that coaches use more training and coaching styles, liberal and social support. The results of their research showed that leadership styles of training and practice, social support, and positive feedback have a positive and significant relationship with athletes' satisfaction [28].

Nizam Bean et al. (2009), in their study of college basketball teams, showed that coaches use a more democratic coaching style and less imperative coaching style. Athletes also expressed satisfaction with the training style and exercise of the coach and imperative coaching style, which is uncoordinated with the results of the present study [10].

In the present study, a negative relationship was observed between the coaching style of training and exercise and imperative and adhering to sports. Also, many studies have shown the existence of different coaching styles among different coaches and sports teams.

Moradi (2004) [2], Chelladurai (1990) [20], and Bennett and Maneval (1998) [29] showed that coaches use more training and exercise behavior and less imperative behavior. Moradi (2004) [2], Ramzaninezhad and Keshtan (2009) [30], Westre and Weiss (1991) [31], and Rang (2002) [32] observed a significant

difference between the coaching style in successful and unsuccessful teams.

Turman (2003) [33] and Ronayne (2004) [34] examined the role of coaching styles on the team cohesion of sports teams and showed that there is a positive and significant relationship between team cohesion with coaching styles of training, democracy, social support, and positive feedback and negative relationship with imperative coaching style [6]. Researchers in this study stated that coaching style could affect team cohesion and team success.

Sheikh Yousefi et al. (2013) [12] stated that there is a significant relationship between leadership style of educational and democratic behavior with the degree of group cohesion in the social aspect and the task of the players. This means that greater use of educational and democratic behavior leads to greater team cohesion and ultimately greater team success.

As some research that researcher did, he/she did not find any research on the relationship between coaching style and adherence to sports. However, research has been done on other factors that affect adherence to exercise.

In a study in Canada, Fraser-Thomas, Côté and Deakin (2008) examined whether or not a competitive swimming program continued to operate. They sought to understand the effect of exercise patterns and the role of other important people (coaches, parents, friends, and siblings) on the pattern of adolescent swimmers' adherence to swimming exercise during the developmental years (13 to 18 years). The researchers specifically selected a group of 20 and 10 athletes who had quit or continued swimming for 4 years, respectively [35].

According to the findings of this study, coaches had a significant effect on their

athletes' experiences during growth. Interestingly, both groups of subjects in this study considered supportive trainers as attentive, passionate, and encouraging, and non-supportive trainers as critical and intimidating. Coaches, who communicated well, showed interest in people, were interactive, and clearly shared their technical knowledge with their athletes; instead, coaches who had poor communication were people who were imperative style, nervous, and could not communicate with youth.

One of the interesting findings of this study was that throughout these years, the nature of coach support did not have a significant effect on adherence to sports or withdrawal from sports. Despite this fact, negative coaching behaviors were positively associated with negative outcomes on young athletes. In the present study, a significant relationship was found between coaching style and adherence to sport in group and individual athletes. However, in order for athletes to engage in long-term adherence, they must be encouraged to engage in a variety of activities. Assuming the vital impact of coaches, family, and friends, free and reciprocal communication and supportive relationships are important factors influencing long-term adherence to the sport.

Also, based on the results of the regression test, it can be said that 27% of changes in adherence to exercise are related to the variable of ethical values. In this study, it was shown that ethical values are very important for adherence to sports among a group and individual athletes. Yousefi et al. (2016) [22], in their research on the relationship between coaches' ethical standards and sports aggression tendencies in athletes of national teams, showed that

there is a positive and significant correlation between coaches' ethical expectations and the likelihood of aggression in athletes. Athletes interact with individuals such as their coaches and teammates so that their values, beliefs, and behaviors depend on their attitudes, decisions, and actions, and in fact, provide a general context for the team's ethical actions. With the right ethical behavior, coaches can increase the importance of ethical and spiritual behaviors and help their athletes to take responsibility, respect, teamwork, accountability, time management, correct diagnosis of wrong, how to cope with failure and success, and how to do the right thing and strengthen despite social pressures and the impact of other conditions.

Furthermore, the results of the present study showed that coaching styles and their components have the ability to predict adherence to the sport. Based on the regression results, it can be said that 26% of the changes in adherence to the sport are related to the coaching style variable. The coach as a leader influences the attitude of the players, and these attitudes generate behavioral motivations. The leadership of elite teams is equivalent to leadership in advanced organizations and encompasses the same performance and tasks. Studies have shown that coaches who use democratic behaviors and positive reactions more than negative behaviors and punishment cause better behavior and ethics in their athletes [1]. Coaching is a purposeful, planned, innovative, exciting, and inspiring job that requires a variety of skills. Comparisons between successful and unsuccessful coaches have shown that successful coaches use more positive

feedback behavior and social support. Khoran et al. (2008) [11] have also shown that there is a positive relationship between coach leadership behaviors and athletes' satisfaction.

Also, the results of structural equation modeling showed that ethical values could have a positive and significant effect with a path coefficient of 0.60 on adherence to the sport. Among the components of ethical values, punishment for unethical behaviors, ethics and success, ethical behaviors, and tolerance of unethical behaviors show the highest to lowest impact on adherence to sport, respectively. No structural model has been proposed before regarding the relationship between ethical values and adherence to the sport.

Finally, the results of structural equation modeling showed that coaching style could have a positive and significant effect with a coefficient of 0.64 on adherence to the sport. Among the components of coaching style, education and democratic behavior have the most effect, and imperative behavior has the least effect on adherence to sports. No structural model has been previously proposed for the relationship between this variable and adherence to the sport.

5. Conclusion

The results of the present study showed that there is a significant relationship between coaching style and ethical value and their components with adherence to sports among athletes in group and individual fields. According to theorists, past behavior affects future behavior in sports. The results of research findings have shown that supportive behavior has positive and significant effects on future behaviors of athletes. Therefore, it can be said that

physical education experts should increase the likelihood of athletes' adherence as people in need of support by providing supportive environments. In general, many studies show that many sports and non-sports variables influence athletes' decision to continue exercising. Future research should consider indicators that examine situation-specific coaching behaviors, training programs, and motivations for long-term adherence to the sport. This allows managers, coaches, and parents to take advantage of sports programs designed specifically for the needs and interests of athletes.

Conflict of interest

The authors declared no conflicts of interest.

Authors' contributions

All authors contributed to the original idea, study design.

Ethical considerations

The author has completely considered ethical issues, including informed consent, plagiarism, data fabrication, misconduct, and/or falsification, double publication and/or redundancy, submission, etc.

Data availability

The dataset generated and analyzed during the current study is available from the corresponding author on reasonable request.

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