

## **The relationships between coaching efficacy, collective efficacy, and group cohesion among pro-league and first division female futsal teams**

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### **ABSTRACT**

*The aim of this study was the relationships between coaching efficacy, collective efficacy, and group cohesion among pro-league and 1st division Iranian female futsal teams league. For this reason, 18 coaches with mean age of  $36.37 \pm 6.61$  years old and coaching experience of  $11.34 \pm 5.48$  years and 146 female futsal players with mean age of  $26.12 \pm 8.50$  years old and  $12.76 \pm 5.38$  years were selected and wanted them to fill the consent form, public demographic questionnaire, coaching Efficacy scale, collective efficacy and group cohesion questionnaires. The Pearson correlation coefficient and multivariate regressions tests in the level of significance  $p \geq 0.05$  were used for statistical analysis. Findings indicated that, there is positive and significant relationship between collective efficacy and arousal efficacy ( $p \geq 0.05$ ). Group cohesion has a positive and significant relationship with tactical efficacy, arousal efficacy, personalization efficacy, ability efficacy, effort efficacy, stability efficacy, readiness efficacy, solidarity efficacy and collective efficacy ( $p \geq 0.05$ ). Multivariate regression test revealed that coaching efficacy dimensions including tactical efficacy, technical efficacy, arousal efficacy and personalization efficacy can be significant predictor of collective efficacy and group cohesion among pro-league and 1st division female futsal teams ( $p \geq 0.001$ ), so that in comparison to group cohesion (22.6 %), this dimensions has a greater ratio in predicting collective efficacy (48.8 %). Based on the results of this study it's concluded that promoting coaching abilities in own duties via focusing on their efficacy may promote female futsal teams performance due to increasing of collective efficacy and group cohesion.*

**Keywords:** Coaching Efficacy, Collective Efficacy, Futsal, Group Cohesion.

### **INTRODUCTION**

Perfect and efficient management is required in any successful teamwork. Individuals need a manager or a group leader in order to achieve their goals in a group. This leader must possess skills and characteristics necessary for leadership of the group in order to lead members of the team toward a desired goal. A coach holds this position in sports [32]. Based on the experience acquired from professional sports, coaches who are technically and scientifically excellent, play an effective role in their team success and better demonstration of players' teamwork. In fact, coaching is one the complex careers that cannot be done by anyone. An efficient coach utilizes his/her knowledge and experience in order to improve athletes' performance and ultimately his team success.

Like other groups and organizations, require many criteria is required in sports and especially team sports in order to reach common goals and success. Series of studies show that having group cohesion and unity is a necessary criterion in sports teams achievements [27]. Team cohesion, as a central and determinant element in team development [28, 29, 25] and the basic feature of successful teams [26], is reflected as a dynamic process of individuals willingness to create and maintain a team to achieve members goals or satisfy their emotional needs [8,

8]. Sports psychologists believe that athletes not only need to elevate their self-awareness but also need to understand the roles, views, values, motivations and requirements of other team members. They suggest that the development of mutual agreement among team members is the basis of team structuring process [12]. Other sports psychologists also acknowledged the importance of mutual agreement among team members and the confirmed the benefits of team vitality. For example, Orlick (1990) has expressed that many problems among members of a group is due to the lack of understanding the needs, motivations and feelings of their teammates [24]. In addition, Gould et al (1999) proposed that since members of sports teams have the opportunity to mutually share thoughts, feelings and ideas on specific subjects, some activities must be performed among them in order to improve bilateral cooperation and team cohesion [14]. Task and social cohesions must be emphasized in the team cohesion, which are independent of each other [31, 14]. In other words, an individual as a member of a team may be very capable in achieving the goals of a team, but may have no cohesion or interest towards other team members [15]. Teams whose members work perfectly with each other are so committed to achieve common goals, are in the functional stage of group development and have higher chance of success. Teams whose members have fundamental conflicts with each other can also be successful only if its members have commitment to common goals [32]. Key elements of team cohesion include type of sport, stability of the group members, size of the group, external threats, the similarity between members' position and character, members satisfaction of each other, and success [32]. High coherence results from the members' belief that they can effectively accomplish the tasks needed for their team success by working together. These beliefs which are called 'collective efficacy' [1], show the members' confidence in successfully perform a particular task or mission in a group [32]. Members who feel more confident in their team's capabilities are more motivated to work hard for the team, have more resistance in facing group related obstacles and are willing to accept more severe challenges. These teams also set difficult goals and are more committed to them [31]. Consequently, high-efficacy teams outperform low efficacy teams under critical conditions.

Several factors can affect the group cohesion and collective efficacy. Undoubtedly, Sports coaches as leaders of teams can play a key role in this field. One of the main tasks of a team coach is to raise the collective efficacy of the team [18]. If team members believe their team is capable of achieving its goals, i.e., being successful, they are more likely to get involved it tasks [32]. Bandura (1982) suggested that efficacy beliefs emerge from (a) a history of successful achievement, (b) observation of modeled behaviors that lead to successful performance, and (c) encouragement and social influence processes. Therefore, an efficient coach can apply these strategies to build task confidence in the team [15].

Coaching efficacy consists of four main components, which are motivation, game strategy, technique and character building process. Coaches can influence skills and moods of their players by motivation [1, 2, 32]. Coaches can influence their players' skills and psychological status by motivating them. Game Strategy relates to coach capability during the match to direct and guide the players towards success. Coaches use technique efficacy in teaching techniques and detecting players' errors [3, 5]; finally the character building process relate to the coach belief that he/she is capable of affecting the personality development of players and change people perspective towards sports [6, 4]. Researchers have stated that coaching is beyond teaching specific information to learners [9, 29] and according to the social learning perspective; a coach is a model that reinforces appropriate behaviors and punishes inappropriate ones. Coaches Ability to establish an effective relationship is more important [8, 9, 10].

Although coaching is the most important topic in the field of sport and physical education, but coaches outstanding role has gained less attention in most of the team improvement programs. In order to prove the importance of coaching efficacy, researchers have shown that successful players reach the highest level of confidence, motivation, self-esteem and feelings of success through precise guidance of their coaches [4, 13, 17, 19]. Moreover, it is reported that group cohesion is related to coaches' leadership behaviors [12, 15, 17] and athletes perceive more team cohesion in the presence of their coaches [5]. Since group cohesion and subsequently collective efficacy are key elements in team development [15, 28, 29, 25] and considered as a basic feature of successful teams [26], it is important to investigate the relationship between coaching efficacy and these variables. So far, most of studies in this field emphasize the leadership behavior of the coach on team variables. There is not much research on how efficient these behaviors are or how much the players perceive this efficacy. In addition, most of researches have been done on male subjects and it is known that behavioral characteristics are different in men and women due to their differences in structure, social status and experiences [16, 27]. Therefore, it is unlikely to apply the current results to females and it is necessary to perform this study on women.

In addition, it is necessary to study the relationship between coaching efficacy and team cohesion as well as collective efficacy of sports teams in light of the prominent role of sport coaches in directing teams and the importance of their efficacy. Given the importance of the above mentioned issues and since the current studies have not considered the above mentioned variables, we intended to study the relationship among coaching efficacy, team cohesion and collective efficacy in Iranian female Major and First Futsal leagues.

### *A. Materials*

Subjects of this study were 146 futsal players of Iranian females from Major and First leagues (mean age: 25.86±4.6 years old, mean Sport experience: 10.03±3.6 years, mean participation in League: 5.16±2.09 years) that includes eight players from each team of the league (Total: 18 teams).

### *B. Procedure*

We contacted the clubs in order to measure the coaching efficacy, team cohesion and collective efficacy in the Iranian female futsal leagues. After initial coordination, we went to the training camp of each team, separately. After providing them with necessary information regarding the purpose of the study and encouraging them to cooperate, eight players selected from each of 18 futsal teams and filled out the related questionnaires. As a result, 146 questionnaire packs were collected in used in data analysis.

### *C. Instruments*

The instruments of data collection are as follows:

**Team cohesion:** Cohesion was measured using the Group Environment Questionnaire [] (Carron et al., 1985). This instrument contains 18 items to assess the four aspects of cohesion: ATG-T (four items; e.g.: "I do not like the style of play on my team"), ATG-S (five items; e.g.: "Some of my best friends are on my team"), GI-T (five items; e.g., "Members of my team are united in trying to reach the goals for performance"), and GI-S (four items; e.g., "Members of my team rarely party together"). Athletes rated their agreement with each item using a 9-point Likert-type scale with 1 for strong disagree and 9 for strong agree. Negative items (i.e., 11 items) were reverse-scored in a way that higher scores reflect stronger perceptions of cohesiveness. Participants' responses on each scale averaged to yield a scale score. The construction validity and reliability of this questionnaire are supported in Heuzé and Fontayne's (2002) studies. Chronbach's alpha coefficients computed with the sample were ATG-S = 0.66 and 0.49, ATG-T = 0.72 and 0.70, GI-S= 0.73 and 0.82, and GI-T= 0.82 and 0.84 at Time 1 and Time 2, respectively. For ATG-S, examination of the corrected item-total correlations indicated low values for Item 5 ("Some of my best friends are on my team") at both times (i.e., 0.17 and 0.001) and Item 9 ("For me this team is one of the most important social groups to which I belong") at Time 2 (i.e., -0.06). These correlations led to questions regarding the reliability of the ATG-S scale in this study—this point is addressed further in the Discussion section—and, therefore, resulted in removing it from further analyses.

**Collective Efficacy:** Collective efficacy was measured by using the Collective Efficacy for Sport Questionnaire (CESQ) [28]. The CESQ is made up of 20 items, which are measured on a 9-point scale with higher scores indicating greater confidence. Each item begins with the stem "rate your team's confidence, in terms of the upcoming competition, that your team has the ability to so on". Answers can range from "not at all confident" to "extremely confident". The scale has been supported by confirmatory factor analysis and seemed to be reliable, which demonstrate concurrent validity with respect to other group dynamics in sport [24]. The 20 items measure five different elements of collective efficacy. The five elements that are measured are ability (e.g., "outplay the opposing team") effort (e.g., "play to its capabilities), persistence (e.g., "perform under pressure"), preparation (e.g., "be ready"), and unity (e.g., "be united"). Instructions given on the questionnaire inform the athlete to rate their team's confidence in terms of their upcoming competition.

**Coaching efficacy:** The instrument used for assessing coaching efficacy was the CES developed by Feltz et al. (1999). The Scale contains 24 items scored on a 10-point scale with 0 indicating "not at all" and 9 indicating "extremely confident". The 24 items are grouped in four dimensions. Sample items for each dimension are, Motivating Athletes: "Maintain confidence in athletes", and "Mentally prepare athletes for competition"; Strategy Use: "Make critical decisions during competitions", and "Maximize own athletes' strength during competition"; Coaching Technique: "Detect skill errors", and "Teach the skill of the sport"; Character Building: "Infuse an attitude of fair play among athletes", and "Promote good sportsmanship". When the internal consistency of the Scale was examined, the Cronbach alphas obtained for Motivating Athletes, Strategy Use, Coaching Technique, and Character Building were 0.90, 0.91, 0.91, and 0.92 respectively. The alpha coefficient for the total scale was 0.85. The levels of these coefficients suggested that the Scale was acceptable for use [23]. According to Kavussanu and colleagues (2008), coaches might score higher to their efficacy than athletes and might tend to evaluate themselves more favorable than others, therefore, we decided to distribute coaching efficacy questionnaire among athletes.

### **STATISTICAL ANALYSIS**

Data were analyzed using multiple linear regressions allowing the simultaneous testing and modeling of multiple independent variables.

## RESULTS

Table 1, shows the results of Pearson correlation coefficient produced by regression output among different components of coaching efficacy, team cohesion, and collective efficacy.

**Table 1. Pearson correlation coefficient between different components of coaching efficacy, team cohesion, and collective efficacy**

Team cohesion		Coaching efficacy				Total Coaching efficacy
		Coaching Technique	Strategy Use	Motivating Athletes	Character Building	
	ATG-S	0.27	0.24	0.40*	0.25	0.29
	GIT	0.22	0.47*	0.37	0.62**	0.52*
	GIS	0.37	0.19	0.46*	0.60**	0.54*
	Total TC	0.35	0.45*	0.53**	0.57**	0.53**
Team cohesion	Ability	0.47*	0.23	0.33	0.60**	0.49*
	Effort	0.39*	0.16	0.26	0.54*	0.45*
Collective efficacy	Persistence	0.42*	0.26	0.72**	0.36	0.61**
	Preparation	0.45*	0.32	0.29	0.50*	0.46*
	Unity	0.56*	0.34	0.58*	0.42	0.53*
	Total CE	0.52*	0.27	0.65**	0.32	0.57*

Note: N= 146; \* P<0.05; \*\* P<0.01; ATG-T: individual attractions to group-task; ATG-S: individual attractions to group-social; GIT: Group integration-task; GIS: group integration-social; CE: collective efficacy; TC: team cohesion

According to the results of Table 1, correlation of team cohesion using three coaching efficacy factors of strategy efficacy, motivational efficacy and character building efficacy was significant; while collective efficacy using two components of technique efficacy and motivational efficacy among components of coaching efficacy was also significant. Among coaching efficacy factors, team cohesion has shown the strongest correlation with character building efficacy ( $r=-0.57$ ,  $P<0.01$ ) and the weakest correlation with technique efficacy ( $r=0.35$ ). Among coaching efficacy components, five factors of collective efficacy had the highest correlation with motivational efficacy ( $r=0.65$ ,  $P<0.01$ ) while, strategy efficacy had the lowest correlation ( $r=0.27$ ) with collective efficacy.

Table 2, shows the results of multi variable regression analysis to explain the team cohesion based on athletes perceived coaching efficacy.

**Table 2. Summary of regression analysis to explain the team cohesion based on coaching efficacy**

	SS	df	MS	F	R	R <sup>2</sup>	Sig.
Regression	397.09	4	99.27	6.91	0.379	0.144	0.001
Residual	2024	141	14.35				

Since the results of multi-variable regression test was significant, it is necessary to determine and explain the regression coefficients. Table III, shows the significance of multi variable regression coefficients to predict the team cohesion.

**Table 3. Significance of multi variable regression coefficients to predict the team cohesion**

Criterion variable	Predictor variables	B	$\beta$	t	Sig.
Team cohesion	Technique efficacy	0.97	0.18	1.88	0.062
	Strategy efficacy	- 0.56	- 0.11	- 0.32	0.743
	Motivational efficacy	1.44	0.30	0.84	0.400
	Character building	2.37	.45	4.63	0.001

According to the results of Table 2 and 3, Character building dimension of coaching efficacy ( $\beta=0.45$ ) explains team cohesion significantly. Correlation of predictor variable have been observed significant and altogether 0.144 of variance of team cohesion is explained by it ( $R^2= 0.144$ ).

Table 4 shows the results of multi variable regression analysis to explain the collective efficacy based on coaching efficacy dimensions.

**Table 4. Summary of regression analysis to explain the team cohesion based on coaching efficacy**

	SS	df	MS	F	R	R <sup>2</sup>	Sig.
Regression	1120.49	4	280.12	6.52	0.48	0.23	0.001
Residual	6049.47	141	42.90				

Since the multi-variable regression test's result was significant, so determining and explaining the regression coefficients is necessary. Table V shows the significance of multi variable regression coefficients to predict the team cohesion.

**Table 5. Significance of multi variable regression coefficients to predict the team cohesion**

Criterion variable	Predictor variables	B	B	t	Sig.
Collective efficacy	Technique efficacy	2.49	0.27	2.77	0.04
	Strategy efficacy	0.47	0.05	0.16	0.872
	Motivational efficacy	0.45	0.05	0.15	0.878
	Character building	4.37	0.48	4.95	0.001

According to the results of table 5 and 6, two dimensions of Technique efficacy ( $\beta=0.27$ ) and Character building ( $\beta=0.48$ ) explain collective efficacy of Iranian female futsal players significantly. Correlation of two predictor variables have been observed significant and altogether 0.23 of variance of collective efficiency is explained by them ( $R^2= 23$ ).

## DISCUSSION

The goal of present study was to investigate the relationship of coaching efficacy with team cohesion and collective efficacy in the Iranian female futsal players in Major and First Futsal leagues. The researchers believe that coaching efficacy can predict variables such as collective efficacy [30] and team satisfaction [24]. Based on potential capability of coaching efficacy in determining team variables, present study has focused on the correlation of coaching efficacy with team cohesion and collective efficacy as well as possibility of predicting team cohesion and collective efficacy through coaching efficacy dimensions.

Our findings demonstrated that there is direct correlation between coaching efficacy dimensions (such as motivational, technical, game strategy, and character building efficacy) and team cohesion factors (including individual's functional and social attractions in a group as well as group cohesion). This correlation suggests that the dimensions of coaching efficacy can predict the overall team cohesion and collective efficacy of Iranian female futsal teams. Due to their identical theoretical structure, coaching and collective efficacy are indeed potentially related. Bandura's social cognitive theory (1997) provides the theoretical framework underlying both coaching and collective efficacy. A fundamental assumption of social cognitive theory is human factor. When humans and organizations (through the collective actions of group members) make choices, they exhibit being a factor. According to social cognitive theory, efficacy is a key to the operation of a factor since individuals and groups are more likely to pursue activities in which they believe they have the capability to succeed [32]. Moreover, team efficacy emerges from the leader's effective accomplishment of his/her leadership tasks. These tasks enhance more likely encourage leaders and their teams to build a history of their successful accomplishments and increase their sense of efficacy. Kane et al. (2002) reported evidences in this regard. They examined coaches' efficacy to fulfill leadership tasks, the goals and strategies they implement in the group, their demonstration of leadership capabilities, their group's cohesion as well as their team collective efficacy and performance. They found that the coach's sense of efficacy and his/her implemented goals and strategies have influence on his/her interaction in the team. Coach's goals and oriented actions of the team, in turn, affects team's collective efficacy. These leadership processes also had direct effects on the team's cohesion (after controlling for prior performance) and subsequent performance.

Since team cohesion is directed on believes, values and as well as perceptual, cognitive, and personality variables of players [9, 10, 11], it seems that coaching efficacy would be effective if players perceived this efficacy. Since present study has investigated the coaching efficacy from the players' perspective, the findings strongly suggest the predicting capability of efficacy dimensions. However, it seems that minimum difference between coach and player perspective on coach efficacy would result in effectiveness of coach's efforts in improving team cohesion. Although previous studies have not assessed the relationship between coaching efficacy and team cohesion, but there are clues that suggest coaching variables have great effect on team cohesion. For example, Chen (2007) reported a significant causal relationship among coach leadership efficacy and team cohesion as well as players' motivation for progress. In addition, Hightower (2000) showed that there are significant correlations between the five components of leadership behaviors and four components of group cohesion. On the other hand, researchers have reported the relationship of coaching efficacy with some of the team variables [20, 22] which indicates the potential capability of coaching efficacy to influence team variables. For example, Myers and colleagues (2005) found that overall coaching efficacy predicts team satisfaction and winning advantage in male teams. They also showed that motivational efficacy relates positively to satisfaction in female teams with a female coach. Sullivan and Kent (2003) showed that motivational and technical dimensions of coaching efficacy are important predictors (42%) for leadership style. This study also found no difference between male and female coaches. Tonsing and colleagues

(2003) showed in another study that dimensions of coaching efficacy (motivational efficiency and character building) significantly predict team efficacy. These studies coupled with our findings indicate the impact of coaching efficacy on the team cohesion and collective efficacy and subsequently team's success.

Maleté and Fylytz (2000) found that coaches who participated in the coaching courses, progressed significantly in all aspects of coaching efficacy, especially in the Strategy and Technique efficacy. These findings are repeated in other societies with different cultures. Lee, Maleté and Fylytz (2002) found in a similar study that following a training program, Singaporean coaches acquired higher scores in strategy and techniques efficacy. The findings of present study demonstrate that there is direct correlation among coaching efficacy dimensions and team cohesion and collective efficacy. This is an important point, since specific courses may improve coaching efficacy. We suggest that coaching efficacy be considered as a critical factor in female futsal teams and special courses held to improve it, in order to subsequently affect team cohesion, collective efficacy and team success.

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