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Original Article

The relationship of group cohesion with the antecedents for soccer teams

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Abstract:
The aim of the study was to examine the relationship of the cohesion and the antecedents, which Carron (1982) presents in the conceptual framework of group cohesion, on soccer. Cohesion is a very important psychological factor which is connected to the group and individual performance. Many studies showed the great relationship between the two variables (Carron, Bray, & Eys 2002; Chang & Bordia 2001; Kozub & Button 2000; Pain & Harwood 2007; etc). According to Carron, Brawley, and Widmeyer (1998), group cohesion is "a dynamic process that is reflected in the tendency for a group to stick together and remain united in its pursuit of instrumental objectives and/or for the satisfaction of members' affective needs". Characteristics such as the age and the experience of the players seem to affect the cohesion and also the perceptions of players about their individual and team performance. The sample of the data were 403 male soccer players from amateur Greek leagues aged 13 to 38 years (M= 21,91). The number of the participants that answered all the items of the questionnaires to all loans was 173 players. Perceptions of group cohesion were assessed using the Greek version of the 18-item Group Environment Questionnaire (GEQ: Carron et al., 1985; Aggelonidis, 1995). The other variables were measured with improvised scales. The MANOVA analysis showed that cohesion is related to the perceptions of soccer players about their individual and team performance. Descriptive statistics showed also differences but no significant among the players of different either age or experience.
Key words: cohesion, soccer, age, experience, performance.

Introduction

The most common question among the sports persons is how to build a successful team that would achieve their targets. However there are many soccer teams that have invested great amounts of money to buy either players or training staff without achieving their goals. But what makes the difference so as these expensive teams sometimes can't achieve the targets that less expensive teams achieve? Carmichael and Thomas (2005) answered this question through their study in which they analyzed the performance of the teams that participated in UEFA EURO 2004. The results showed that the team co-operation which the Greek national team presented was the main reason for winning the first place of the EURO cup. Greek national team beat teams with great history which are consisted of the most famous and expensive players around the world. The study revealed the existence of a factor which is often overlooked by the training staff, the group cohesion. Apart from technical, tactical and physical factors, the psychological factors are necessary to be developed during the season. Further, one of the most important factors that is related with both individual and team performance is the group cohesion. The positive relationship between cohesion and performance has been concluded in many studies (Carron, Bray, & Eys 2002; Carron, Colman, Wheeler, & Stevens 2002; Chang & Bordia 2001; Kozub & Button 2000; Mullen & Copper, 1994; Narimani & Ahari 2008; Pain & Harwood 2007; Tziner, Nicola, & Rizac, 2003 etc). According to the definition by Carron, Brawley, and Widmeyer (1998), group cohesion is "a dynamic process that is reflected in the tendency for a group to stick together and remain united in its pursuit of instrumental objectives and/or for the satisfaction of members' affective needs". This definition incorporates two different kinds of cohesion, the instrumental objectives of the group members are connected to the task cohesion and the satisfaction that the members feel as part of the groups connected to the social cohesion. As we can observe from the definition cohesion is a dynamic process as it changes through the time because of a variety of variables. Carron (1982) developed the conceptual framework of group cohesion which is a linear model consisting of inputs, throughputs and outputs. The inputs represent the antecedents of cohesion, the throughputs

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the kinds of cohesion and the outputs represent the consequences of cohesion on the performance. Environmental, personal, leadership and group factors affect the cohesion of the team. Indeed, personal characteristics such as the age and the experience of the players seem to affect the cohesion. Younger athletes emphasize to the social relationships and friendships in the team characteristics that are connected to the social cohesion (Bray & Whaley, 2001; Bukowski, Newcomb, & Hartup,1996). Granito and Rainey (1998) concluded that the cohesion of school teams was higher than university teams. However, in another study there were no significant differences about the perceptions of the cohesion among athletes of different age (Jacob & Carron, 1998). Also, one factor that seems to be related to the cohesion is the perceptions of players about their individual and team performance. It has been found that the athletes who perceive that either their team or their individual performance were high present higher levels of task cohesion. However the researchers have not included the social cohesion (Westre & Weiss 1991). The purpose of the current study was to examine some of the factors that seem to be related to the cohesion of the soccer team. There is also a lack of knowledge about factors which are related to the group cohesion of soccer teams.

Material and methods

Participants

The total number of participants was 403 male soccer players, from 16 teams of amateur Greek leagues of Attica and Arcadia aged 13 to 38 years (M= 21,91), of whom 173 completed all the items of the questionnaires to all loans.

Assessment test

Cohesion

Perceptions of group cohesion were assessed using the Greek version of the 18-item Group Environment Questionnaire (GEQ: Carron et al., 1985; Aggelonidis, 1995). The GEQ assesses four dimensions of cohesion. The four subscales of the GEQ are referred to as Individual Attractions to the Group-Task (ATG-T: e.g., 'I like this team's style of play'), Individual Attractions to the Group-Social (ATG-S; e.g., 'Some of my best friends are on this team'), Group Integration-Task (GI-T, e.g., 'Well all take responsibility for any loss or poor performance by our team'), and Group Integration-Social (GI-S; e.g., 'Our team would like to spend time together in the off-season'). Participants rate their agreement to items (e.g., 'Some of my best friends are on this team') on a 9-point scale anchored by 1 ('strongly disagree') to 9 ('strongly agree'). The reliability coefficients of the Greek version of the questionnaire with sample of team and individual sports were .69 (ATG-T), .75 (ATG-S), .75 (GI-T) and .79 (GI-S).

Age and Experience

The questions about the age and the experience of the players were "How old are you?" and "How many years are you playing soccer for the adult team?". The answers were divided as far as the age in the following four categories 13-18, 19-25, 26-32, 33+ and as far as the experience in the next four categories 1-2 seasons, 3-4 seasons and 5+ seasons, because of the different developmental stages.

Perceptions of individual and team performance

Perceptions about the individual and team performance assessed using two questions with 5-point Likert Scale. The questions which first time used from Westre and Weiss (1991) were "How do you perceive your team's performance in the last match? and "How do you perceive your individual performance in the last match?" The answers for the first question were very poor, poor, fair, good, and very good and for the second question were very poor, poor, fair, good, very good, and I did not play.

Research planning

The researchers arranged some meetings with the training staff of the teams so as to explain them the goals of the study and take the permit to give the questionnaires to the players. The cohesion was measured four times through the season 2009-2010 before the match. The players completed the questionnaires, in the beginning of the preparation, before the first match of the season, in the middle and in the end of the season. The players answered questions about their age and their experience in the first meeting in the beginning of the preparation. The perceptions about individual and team performance were measured after the match in the middle and in the end of the season.

Results

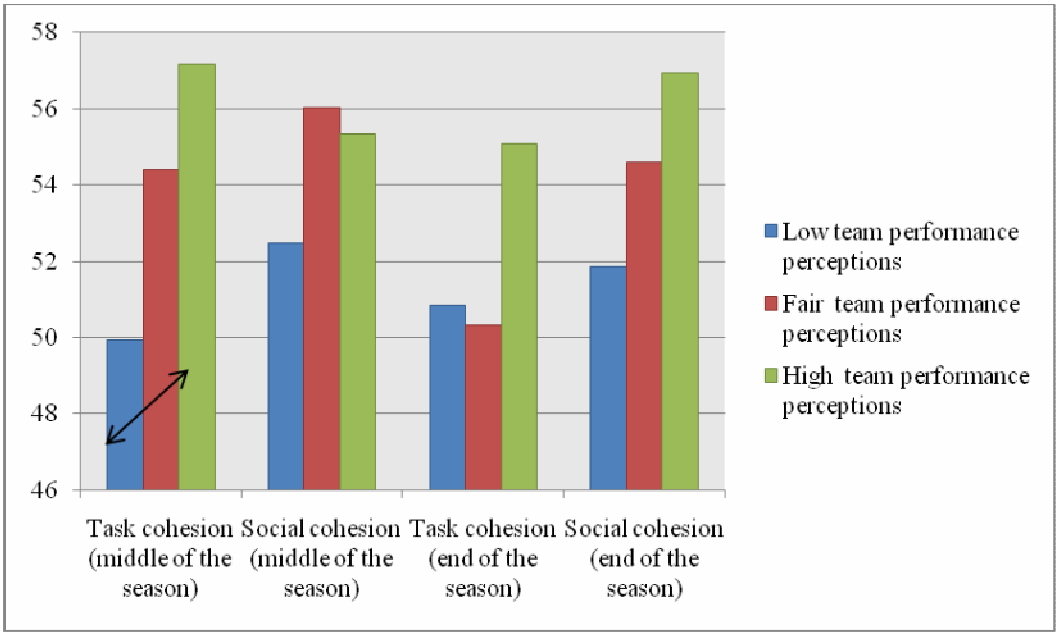
Statistical analysis

The Cronbach alpha for the Group Environment Questionnaire were satisfied for the four measures and are presented to the table 1.

Table 1: Cronbach α of the Group Environment Questionnaire.

Cohesion	Measures			
	1st	2nd	3rd	4th
Task Cohesion	.71	.72	.85	.81
Inter-item correlation	.22 (.05-.43)	.24 (.06-.53)	.38 (.15-.62)	.33 (.11-.56)
Item correlation	.38 (.29-.51)	.41 (.29-.55)	.57 (.36-.67)	.51 (.37-.67)
Social Cohesion	.67	.69	.83	.82
Inter-item correlation	.19 (.04-.47)	.20 (.00-.55)	.36 (.19-.60)	.34 (.16-.55)
Item correlation	.35 (.23-.44)	.37 (.19-.45)	.54 (.37-.68)	.52 (.42-.62)

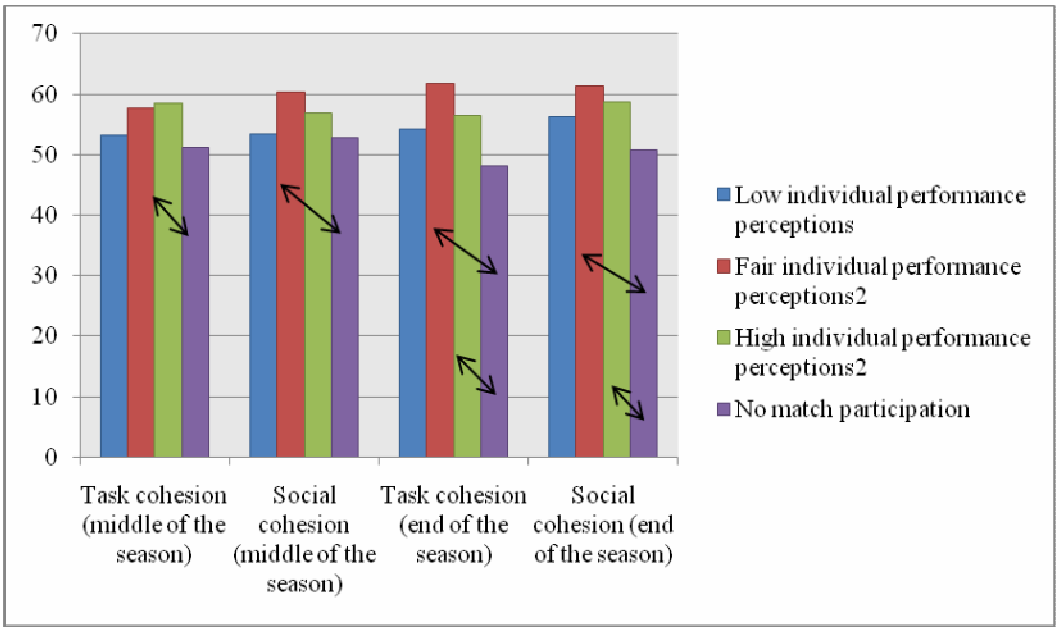
The graph 1 shows the differences among the players with different perceptions of team performance as far as both the task cohesion and the social cohesion. The MANOVA analysis showed the existence of statistic significant differences in both task and social cohesion among players with different perceptions of team performance in the middle of the season [Pillai's Trace= .057, F(2,181)= 2.647, p<.05, η^2p= .028]. More specific analysis revealed the existence of statistic significant differences for the factor task cohesion [F(2,181)= 5.166, p<.01, η^2p= .054] and no significant differences for the factor social cohesion [F(2,181)= 1.970, ns, η^2p= .021]. The players who presented low levels on their perceptions for the team performance (very poor, poor) revealed lower task cohesion from the players who had higher perceptions of team performance (good, very good). Further, the results of the MANOVA showed that there were not significant differences for task and social cohesion among players with different perceptions of team performance in the end of the season [Pillai's Trace= .049, F(2,189)= 2.352, ns, η^2p= .024].



Graph 1: Team's performance perceptions and cohesion

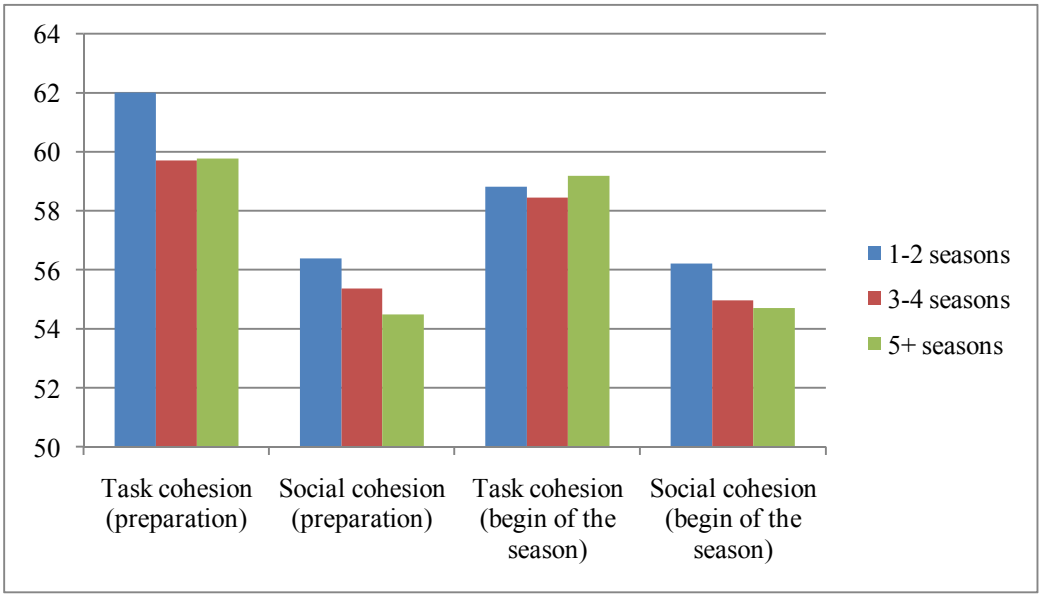
The graph 2 presents the differences among players with different perceptions of individual performance as far as the task and social cohesion. The results of the MANOVA revealed the existence of statistic significant differences in both the task and social cohesion among the players who in the middle of the season perceived different levels of individual performance [Pillai's Trace= .083, $F_{(3,180)}$= 2.590, p<.05, η^2_p= .041]. More specific analyses showed the existence of statistic significant differences for the factors task cohesion [$F_{(3,180)}$= 3.820, p<.05, η^2_p = .060] and social cohesion [$F_{(3,180)}$= 3.275, p<.05, η^2_p = .052]. The players with higher perceptions of individual performance (good, very good) revealed higher task cohesion than the players that did not play. Also the players with fair perceptions of individual performance revealed higher social cohesion than the players that did not play. Further the results of the MANOVA showed the existence of statistic significant differences for both task and social cohesion among the players who in the end of the season

perceived different levels of individual performance [Pillai's Trace= .161, $F_{(3,188)}$= 5.478, p<.001, η^2_p= .080]. There were also statistic significant differences for the factors task cohesion [$F_{(3,188)}$= 9.828, p<.001, η^2_p = .136] and social cohesion [$F_{(3,188)}$= 8.475, p<.001, η^2_p = .119]. The players that presented fair and high (good, very good) perceptions of individual performance presented higher task and social cohesion than the players that did not play.

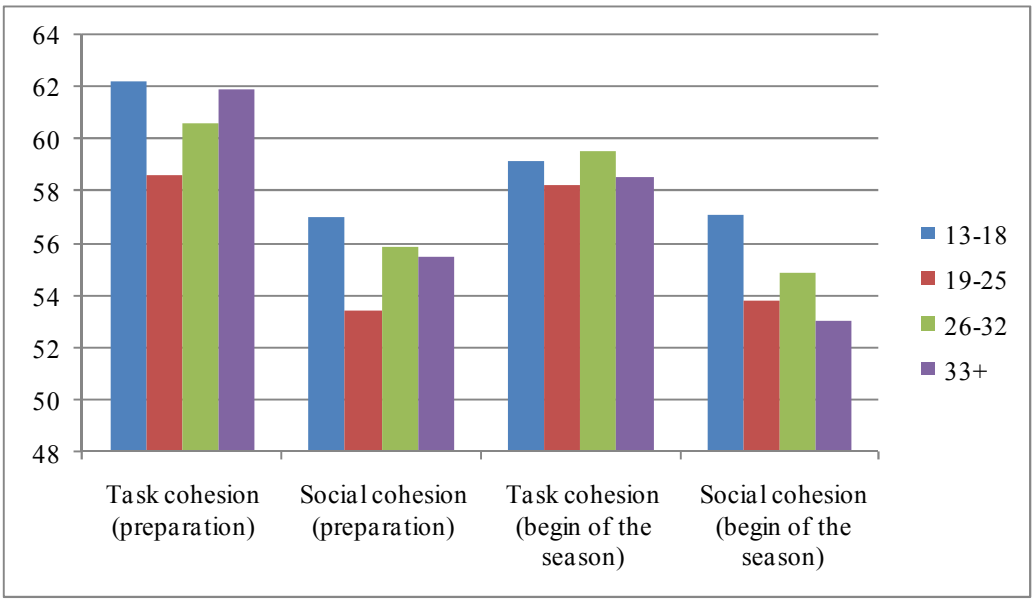


Graph 2: Individual's performance perceptions and cohesion

The graphs 3 and 4 present the differences among the players of different age and experience as far as their perceptions of task and social cohesion. Although through the means we observe some differences the statistical significance was very low.



Graph 3: Cohesion and experience



Graph 4: Cohesion and age

For the statistical analysis, the Cronbach alpha was used and also correlations between the items so as to see the internal reliability of the Group Environment Questionnaire for the Greek population. Descriptive statistics were used for the whole population for all the variables. Finally, ANOVA and MANOVA were used for the measure of the differences among players of different age, experience and perceptions of team and individual performance. Significance level was set at a = 0.05.

Discussion

The current study is based on the conceptual framework of group cohesion of Carron (1982) which supports that many factors such as personal, environmental, leadership and group affect the group cohesion. The researchers decided to examine how these factors affect the cohesion of the team. The study is focused on the following three factors, the age and the experience of the players and their perceptions of team and individual performance. According to the results the age of the players did not affect their perceptions about group cohesion. However, from the descriptive statistics younger players aged 13-18 years old, although they presented the higher task and social cohesion during the preparation, the cohesion that they perceived decreased a lot in the end of the season. On the other hand the cohesion that the elderly players perceived was higher in the end of the season. The middle-aged players' perceptions about cohesion did not change significantly through the measurements. The changes on the perceptions of younger players might be a consequence of the lack of the experience and the ability to deal with the events that they face during their sports life. Also changes on behavior and perceptions and further the quick disappointment of young people is a trait of adolescence (Pervin & John, 1999). On the other hand older players because of experience and maturity manage their feelings in a better way. In general, the motivation might affect the perceptions for the cohesion as people of different age deal with sports for different reasons (Cox, 2002). As far as the experience the players did not present high differences in the cohesion that they perceived. However the descriptive statistics showed that the less experienced players (1-2 years of experience) presented the highest task and social cohesion in the beginning of the preparation which decreased through the measurements. On the other way more experienced players (more than 5 years), although they did not change a lot, presented the highest cohesion in the end of the season. Middle experienced players (3-4 years of experience) presented a small decrease on the task cohesion. The adolescence, the motivation, the experience and the ability to control situations interpreted the results (Cox, 2002; Iordanoglou, 1992; Pervin & John, 1999). The players who perceived that the team's performance was low presented lower levels of task cohesion in the middle of the season than the players that their team's performance was high. Also both in the middle and in the end of the season the players who perceived low team performance presented lower cohesion perceptions than the players who perceived fair and high team performance. In general the perceptions of the players about the cohesion were lower for the players who perceived low team than the players who perceived fair and high team performance. These findings for Greek soccer are supported of the study of Westre and Weiss (1991) on United States football. Also, the bibliography supports the fact that players who believe that their team's performance is high, perceive also high levels of cohesion as the concepts are related (i.e. Mullen & Copper, 1994). As far as the individual perceived performance, the players who perceived high individual performance in the middle of the season revealed higher task cohesion than the players that did not play. Also

the players who perceived fair individual performance revealed higher social cohesion than the players that did not play. In the end of the season the players who perceived fair and high individual performance presented higher task and social cohesion than the players that did not play. In general, the findings support the fact that in the middle as in the end of the season the players who perceived fair and high individual performance presented higher cohesion than the players who either perceived low individual performance or did not play. This finding is also supported from the bibliography (Westre & Weiss, 1991). Also the low levels of the cohesion that players who did not play feel is also supported from the bibliography about how the players who are substitutes in general do not feel high commitment to their goals and present low feeling of belonging to the team (Heuzé, Raimbault, & Fontayne, 2006; Robinson & Carron, 1982). Finally, the difference in cohesion among the players who perceived either fair or high individual performance might be due to personal factors as players with higher levels of cohesion are stricter with themselves having greater demands about their individual performance (Hardy, Eys, & Carron, 2005).

Conclusions

The findings of the current study for some variables support the conceptual framework of group cohesion (Carron, 1982). The cohesion is a dynamic concept as this is affected from many factors through the season. Specifically, the perceptions of the players about their own and their team's performance affect their perceptions about the team cohesion. The experience and the age of players do not affect the cohesion a lot although there are differences among players of different ages and years of experience. As the cohesion is strongly connected to the performance the training staff must examine the levels of the cohesion and what goes wrong sometimes so as to improve the results of their teams. It is also necessary new studies to be presented so as to find which other factors affect the cohesion of the soccer teams.

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