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## The Relationships Among Coaches' and Athletes' Perceptions of Coaching Staff Cohesion, Team Cohesion, and Performance

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### ABSTRACT

This study explored coaches' and athletes' perceptions of coaching staff cohesion (CSC) and their relationships with team cohesion and performance. Eighteen NCAA Division I, II, and III teams participated. Coaches completed the Coaching Staff Cohesion Scale (CSCS; Martin, 2002). Athletes completed a modified CSCS, the Group Environment Questionnaire (GEQ; Carron, 1985), and an item of perceived team performance. Significant differences were found between athletes' and coaches' perceptions of CSC ( $t = 7.162, p < .001$ ). Athletes' perception of CSC was significantly correlated with three GEQ subscales: Individual Attraction to Group-Task ( $r = .610, p < .01$ ), Group Integration-Task ( $r = .498, p < .05$ ), and Group Integration-Social ( $r = .492, p < .05$ ). Coaches' perceptions of CSC were significantly correlated with Individual Attraction to Group-Task ( $r = .553, p < .05$ ). A significant relationship was also found with task cohesion (Individual Attraction to Group-Task,  $r = .612, p < .01$  and Group Integration-Task,  $r = .739, p < .001$ ) and performance.

### Introduction

Team cohesion and performance have been extensively researched in an attempt to quantify the strength and direction of their relationship. A recent meta-analysis identified Albert Carron and his colleagues to be the most influential researchers within the area of team cohesion (Carron, Colman, Wheeler, & Stevens, 2002), and Carron's (1982) conceptual framework remains widely influential. Early studies established the cohesion-performance relationship, though agreement about which factor is driving this



relationship (i.e., cohesion affecting performance or vice versa) has not yet been reached (Carron et al., 2002). Subsequent studies investigated moderating variables of team cohesion in an effort to devise strategies to help develop team cohesion and thus influence performance. Initially, research focused on exploring moderating variables of the cohesion-performance relationship with athletes, including: sport type (i.e. coactive or interactive), gender of the athletes, the performance measure used (i.e. self-report versus actual), and the competitive level of the team (Carron et al., 2002).

*Coaches and team cohesion.* The cohesion-performance link continues to inspire researchers in exploring variables that may impact team cohesion. Although a majority of literature in this area has focused specifically on the athletes, studies exploring the influence that coaches have on team cohesion have yielded promising results. Studies of the relationship among perceived coach leadership behaviors and team cohesion have consistently shown that coaches adopting a democratic, supportive style using positive feedback and ample training and instruction are likely to foster a cohesive team environment in football (Maby, 1997; Westre & Weiss, 1991) and baseball and softball (Gardner, Shields, Bredemeier, & Bostrom, 1996; Shields, Gardner, Bredemeier, & Bostrom, 1997). Further, Shields et al. (1997) found that coaches' self-rated leadership behaviors were related with team cohesion, though not as strongly as players' ratings. Additionally, qualitative data revealed several coaching techniques identified by athletes in small group sports that either promoted or deterred team cohesion (Turman, 2003). Jowett and Chaundy (2004) advanced this line of study by showing that adding coach-athlete relationship variables explained more variance in task and social cohesion than coach leadership factors alone.

Research to date supports a relationship among characteristics and behaviors of individual coaches and team cohesion. However, the majority of today's high school, intercollegiate, and professional teams are often led by a coaching staff consisting of a head coach and one or more assistant coaches. For instance, a Division I-A football coaching staff may consist of as many as 20 coaches or a ratio of 5 players per coach. One can easily imagine the confusion a player on this team may encounter if he is getting "mixed messages" about strategy, discipline, or technique from different coaches, and the resulting undesirable effects. Therefore, studying the cohesiveness of the coaching staff in behavior and message expressed to athletes (coaching staff-athlete interaction) may be very appropriate and applicable for sport psychology team consultations.

*Coaching staff cohesion.* Martin (2002) defined coaching staff cohesion as "the degree of teamwork among head and assistant coaches that is derived from personal and professional factors and assists in developing a pleasing work environment and fulfillment of the individual" (p. 26). Grounding their arguments in social learning theory (Bandura, 1977), Brawley (1990) and Martin (2002) suggested that athletic teams model the behaviors and level of cohesion demonstrated by their coaching staff. Therefore, developing unity among a coaching staff may be critical in building cohesion among members of an athletic team (Blackburn, 1985). Although theoretically driven, the suggestion that coaching staff cohesion, team cohesion, and success "may be interrelated and collectively influential," (Martin, 2002, p. 40), is empirically unsubstantiated.



Coaching staff cohesion has been measured from the coaching staff's perspective (Martin, 2002). However, social desirability and self-report bias may independently or collectively influence the assessment that coaches, especially assistants, make of their staff's level of cohesion regardless of investigator assurances of confidentiality. Therefore, the athletes that observe the coaching staff on a daily basis may more accurately assess coaching staff cohesion, or at least the visible portion of coaching which is most likely to affect team cohesion. Martin (2002) concurs, stating: "Investigating the perceptions of student-athletes concerning the cohesion of their coaches...would yield valuable information" (p. 40).

The purpose of the current study was to explore coaches' and athletes' perceptions of coaching staff cohesion and the relationship of these perceptions with team cohesion and performance. First, it was hypothesized that athletes' perceptions of coaching staff cohesion would be different than coaches' perceptions of coaching staff cohesion. Second, it was hypothesized that coaches' and athletes' perceptions of coaching staff cohesion would be positively correlated with team cohesion. However, athletes' perceptions of coaching staff cohesion were hypothesized to have a stronger positive correlation with team cohesion. Lastly, it was hypothesized that the task dimensions of team cohesion would be positively correlated with performance.

## **Methods**

### *Participants*

A total of 18 NCAA Division I ( $n = 8$ ), Division II ( $n = 5$ ), and Division III ( $n = 5$ ) teams from the mid-Atlantic region of the United States participated in the current study. Coactive ( $n = 7$ ) and interactive ( $n = 11$ ) teams, both in and out of season were included in the study. Sports represented were baseball, men's and women's basketball, women's volleyball, men's and women's soccer, men's and women's swimming, softball, women's gymnastics, women's tennis, women's rowing, women's track and field, and wrestling.

Both athletes and members of the coaching staff from each team participated in the study. The majority of coaching staffs had been together for 1 to 2 years (73.1%). A total of 52 coaches (33 males and 19 females) and 355 athletes (154 males and 201 females) participated in the study. Characteristics of the sample can be viewed in Table 1 (coaches) and Table 2 (athletes).


 Table 1. Demographic Characteristics of Coaches (n = 52)

	Freq.	%		Freq.	%
<b>Gender</b>			<b>Years of coaching experience</b>		
Male	33	63.5	1 to 5 yrs	14	26.9
Female	19	36.5	6 to 10 yrs	16	30.8
<b>Age</b>			11 to 15 years	6	11.5
22 to 30	20	38.5	16 to 20 yrs	4	7.7
31 to 40	16	30.8	21+ yrs	12	23.1
41 to 50	8	15.4	<b>Years coaching at current institution</b>		
51 to 60	4	7.7	1 to 5 yrs	33	63.5
61 or older	4	7.7	6 to 10 yrs	10	19.2
<b>Coaching Position</b>			11 to 15 yrs	3	5.8
Head	16	30.8	16 to 20 yrs	3	5.8
Assistant	36	69.2	21+ yrs	3	5.8
<b>NCAA division</b>			<b>Time coaching staff has been together</b>		
Division I	22	42.3	1 year	17	32.7
Division II	11	21.2	2 yrs	21	40.4
Division III	19	36.5	3 yrs or more	16	26.9



Table 2. Demographic Characteristics of Athletes (n = 355)

	Freq.	%		Freq.	%
<b>Gender</b>			<b>Years under current coaching staff</b>		
Male	154	43.4	< 1 year	111	31.3
Female	201	56.6	1 year	65	18.3
<b>Length of time on the team</b>			2 years	97	27.3
< 1 year	107	30.1	3 years	50	14.1
1 year	59	16.6	4 years	28	7.9
2 years	95	26.8	> 4 years	4	1.1
3 years	61	17.2			
4 years	30	8.5			
> 4 years	3	0.8			
<b>NCAA division</b>					
Division I	144	40.6			
Division II	80	22.5			
Division III	131	36.9			

### *Instrumentation*

*Coaching staff cohesion.* The Coaching Staff Cohesion Scale (CSCS), developed by Martin (2002), is a 22-item questionnaire designed to examine coaching staff cohesion among collegiate head and assistant coaches. A 7-point Likert-type scale was used to assess coaches' responses ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The CSCS measures three factors of coaching staff cohesion: staff attraction (7 items); shared values (4 items); and staff unity (11 items). Interpretation and scores on the three CSCS subscales are obtained by averaging the responses from the items within each subscale. A total score of coaching staff cohesion is obtained by summing the three subscale mean scores. Scores on the CSCS can range from 3 to 21, with higher scores indicating higher perceptions of coaching staff cohesion.

Staff attraction (SA) represents personal and professional interest in coaching a team and the desire to be a part of the coaching staff. Staff unity (SU) reflects the coaching staff's ability to



work together and achieve team objectives. This synergy among the coaching staff applies to communication, role clarity, decision making, support, responsibility, and accountability. Shared values (SV) are defined as “the congruency of coaches in their ethical and philosophical behaviors as related to team, community, and professional responsibilities” (Martin, 2002, p.29). Shared values apply to staff agreement on issues related to coaching philosophies, discipline, role modeling, and coaching and playing styles. Internal consistencies (Chronbach’s alphas) for the CSCS subscales were .85 (SV), .92 (SU), and .94 (SA).

*Athlete perception of coaching staff cohesion.* The Athlete Perception of Coaching Staff Cohesion Scale (APCSCS) is a 22-item self-administered questionnaire designed to assess athletes’ perceptions of coaching staff cohesion on the same three factors as the CSCS: staff attraction (7 items), staff unity (11 items), and shared values (4 items). This scale was created by the researchers by modifying the CSCS items to fit with athlete perspectives of coaching staff cohesion. No items were deleted from the CSCS. Revisions of the CSCS included keeping 10 items in their entirety, and slightly modifying 12 items in order to make the questions more relevant for assessing athletes’ perceptions of coaching staff cohesion. For example, “We agree on team goals” was modified to “The coaches agree on team goals.” A 7-point Likert-type scale was used to assess athletes’ responses; ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Chronbach alphas for the APCSCS are provided within the results section.

*Team cohesion.* The Group Environment Questionnaire (GEQ; Carron, Widmeyer, & Brawley, 1985) is an 18-item instrument measuring athletes’ perceptions of team cohesion. Four subscales are contained within the questionnaire: individual attractions to group – task (ATG-T), individual attractions to group – social (ATG-S), group integration – task (GI-T), and group integration – social (GI-S). Each scale item is rated on a 9-point Likert-type scale ranging from 1 (*strongly disagree*) to 9 (*strongly agree*). The group integration construct represents the closeness, similarity, and bonding within the group as a whole. Conversely, “individual attractions to group” represents the interaction of the motives working on the individual to remain in the group. The task construct refers to a general orientation toward achieving the group’s goals and objectives, whereas the social orientation is focused on developing and maintaining social relationships within the group. Carron, Widmeyer, and Brawley originally reported that the Cronbach alpha values for the ATG-T, ATG-S, GI-T, GI-S scales were 0.75, 0.64, 0.70, and 0.76, respectively. Other researchers have supported these measures of internal consistency (Li & Harmer, 1996; Schutz, Eom, Smoll, & Smith, 1994). The GEQ is the most widely used scale measuring athletes’ perceptions of team cohesion.

*Performance.* Athletes’ perceptions of team performance were measured by a single item. Athletes rated the performance of the team on a scale from 1 (*very poor*) to 10 (*very good*).

### *Procedures*

Approval from the Institutional Review Board for the Protection of Human Subjects was obtained for the study. Approval was also obtained from the head coach for each coaching staff and team participating in the study. During a scheduled meeting with the coaching staff, a member of the research team introduced and administered the CSCS. Once completed, survey instruments were returned to the researcher to ensure anonymity of responses.



Data collection for the student-athletes occurred during a scheduled meeting with the researcher that was pre-arranged through the coach. Due to the nature of the surveys, coaches were not present during data collection, as this may have influenced the athletes' honest responses to the survey instruments. Athletes were administered the GEQ and APCSCS. Once completed, survey instruments were returned to the researcher.

On two occasions, regularly scheduled meetings could not be obtained by the researchers. For these two cases, the researchers set up a meeting with the coach to deliver the cover letter and survey packets. Coaches and athletes were instructed to complete the surveys individually and place them in a sealed envelope to protect anonymity.

## Results

### *Athlete Perception of Coaching Staff Cohesion Scale and Coaching Staff Cohesion Scale*

Bivariate correlations between the CSCS and APCSCS revealed a moderately strong relationship ( $r = .603, p < .01$ ). Internal consistencies (Chronbach alphas) for APCSCS subscales were .95 (SA), .95 (SU), and .87 (SV), which were similar to the alphas reported for the CSCS subscales.

### *Coaches' and Athletes' Perceptions*

An independent samples t-test revealed a significant difference between athletes' perceptions of coaching staff cohesion and coaches' perceptions of coaching staff cohesion ( $t = 7.162, 111.13, p < .001$ ). Overall, coaches' perceptions of coaching staff cohesion were higher ( $M = 18.77, SD = 2.0$ ) than athletes' perceptions of cohesion among the coaching staff ( $M = 16.34, SD = 3.7$ ). Independent samples t-tests also revealed significant differences in subscale means between athletes' perceptions and coaches' perceptions of staff attraction ( $t = 7.27, 117.87, p < .001$ ), staff unity ( $t = 6.74, 101.10, p < .001$ ), and shared values ( $t = 7.46, 134.43, p < .001$ ). Overall, coaches' perceptions of staff attraction, staff unity, and shared values were higher than athletes' perceptions (see Table 3 for subscale means of the CSCS and APCSCS).



Table 3. Subscale Means of the CSCS and APCSCS

	CSCS		APCSCS	
	Mean	SD	Mean	SD
Staff Attraction	6.29**	.70	5.45**	1.33
Shared Values	6.09**	.85	5.17**	1.41
Staff Unity	6.32**	.60	5.54**	1.27
Mean Total Score	18.77**	2.00	16.32**	3.70

Note. Subscales range from 1 (*strongly disagree*) to 7 (*strongly agree*). Scores closer to seven indicate a higher perception of staff attraction, shared values, and staff unity among coaches. Mean total is calculated by adding up all subscale means. Higher scores indicate a higher perception of coaching staff cohesion.

\*\*  $p < .001$ .

### *Coaching Staff Cohesion and Team Cohesion*

Bivariate correlations were run to determine the relationship among the total score on the CSCS and the four subscales of the GEQ (see Table 4). Coaches' perceptions of coaching staff cohesion were only significantly correlated with the ATG-T scale of the GEQ ( $r = .553, p < .05$ ). Bivariate correlations among the APCSCS and GEQ (see Table 4) revealed that athletes' perceptions of coaching staff cohesion were significantly correlated with three of the GEQ subscales: ATG-T ( $r = .610, p < .01$ ), GI-T ( $r = .498, p < .05$ ) and GI-S ( $r = .492, p < .05$ ). Athletes' perceptions of coaching staff cohesion and scores on the ATG-S scale of the GEQ approached significance ( $r = .425, p = .079$ ).



Table 4. Correlations Between Coaching Staff Cohesion and the GEQ

Coaches		Athletes	
	CSCS		APCSCS
Individual Attraction to Group - Task	.553*	Individual Attraction to Group - Task	.610**
Individual Attraction to Group - Social	.172	Individual Attraction to Group - Social	.425
Group Integration – Task	.365	Group Integration – Task	.498*
Group Integration - Social	.292	Group Integration - Social	.492*

\*  $p < .05$

\*\*  $p < .01$

### *Team Cohesion and Performance*

The relationship between the average performance rating of each team was correlated with the average scores of each team on the GEQ scales (see Table 5). Both ATG-T ( $r = .612, p < .01$ ) and GI-T ( $r = .739, p < .001$ ) were found to have strong positive relationships with the athletes' average performance ratings of the team. Neither of the social scales of the GEQ was found to be significantly correlated with the teams' performance ratings.



Table 5. Correlation Between Team Performance and the GEQ

	Performance Rating
Individual Attraction to Group - Task	.612**
Individual Attraction to Group - Social	.126
Group Integration – Task	.739**
Group Integration - Social	.369

*Note.* Team performance was calculated by averaging the scores by each team.

\*\* $p < .01$

## Discussion

As hypothesized, coaches' perceptions of coaching staff cohesion were found to be higher than athletes' perceptions of coaching staff cohesion, suggesting a discrepancy between coaches' and athletes' perceptions regarding the interaction and decision making among the coaching staff. As compared to athletes, coaches perceived the team's head and assistant coaches to have a higher desire to be a part of the coaching staff (SA), a greater ability to work together (SU), and more congruency regarding ethical and philosophical behaviors related to team, community, and professional responsibilities (SV). When consulting with athletic teams, it is important to consider coaches' and athletes' perceptions of coaching staff cohesion. If there is a discrepancy between the coaching staff and athletes' perceptions of coaching staff cohesion, communicating this discrepancy may help increase self-awareness among the coaching staff and thus work to bridge the gap between differences in perceptions.

### *Coaching Staff Cohesion and Team Cohesion*

Congruent with the second hypothesis, athletes' and coaches' perceptions of coaching staff cohesion were positively related to team cohesion, in which athletes' perceptions had a stronger positive relationship with team cohesion. This is consistent with Shields et al.'s (1997) findings with coach leadership behavior and suggests that athletes' perceptions of their coaches are more strongly associated with team cohesion than coaches' perceptions. The way in which athletes' perceive the coaching staff's unity, shared values, and attraction could impact teams on several levels. First, athletes' perceptions of coaching staff cohesion were related to Carron's (1982) construct of group integration, suggesting that coaching staff cohesion influenced closeness, similarity, and bonding within the team. Regarding group integration, the team's orientation toward achieving goals and objectives (task integration) as well as developing and maintaining social relationships within the group (social integration) were influenced by perceived coaching staff cohesion. In addition, perceived coaching staff cohesion may impact an athlete's motives for joining a team (i.e. individual attraction to the group) based on the implied goals and objectives



that are generally established by the coaching staff (ATG-T). However, little support was provided for the coaching staff's influence on the individual's social motives for joining the team (ATG-S), suggesting relationships between team members can develop outside of the "practice" environment when coaches are often not present. This is similar to Jowett and Chaundy's (2004) finding that individual coach-athlete relationship variables were more strongly associated with task than social cohesion and Shields et al.'s (1997) finding that perceived leadership behaviors were more strongly related to task cohesion. In all, these findings provide evidence for further examining athletes' perceptions of the coaching staff in relation to the development of team cohesion.

### *Team Cohesion and Performance*

Individual Attraction to Group-Task and Group Integration-Task were both found to have moderately strong positive relationships with teams' performance ratings, providing further support for a team cohesion-performance link (Carron et al., 2002). Neither of the social scales of the GEQ was found to be significantly correlated with the team performance ratings. As mentioned above, perceptions of coaching staff cohesion were related to team cohesion. This implies that coaching staff cohesion may have an indirect relationship with performance. However, more research is needed before conclusions can be made regarding the impact of coaching staff cohesion on team cohesion and performance.

### *Limitations*

Although the current study provides valuable information for the corpus of team cohesion literature, there are some limitations that warrant attention. Because of the small number of teams assessed by convenience sampling in the current study, the results may not generalize to other teams beyond those in the current investigation. Division I, II, and III level athletes were all included in the current sample. The coach-athlete relationship may be differentially affected across these divisions by factors such as time spent with coaches, scholarship opportunities, and full or part-time status of coaching staff. Future researchers may want to consider sampling from one level of competition. Furthermore, perceived performance was measured by only one question and therefore may not constitute the most comprehensive measure. Future researchers are encouraged to further explore the coaching staff cohesion-team performance relationship, specifically within task cohesion. The current findings provide some initial incentive toward further exploration of variables influencing team cohesion.

The subscales of the APCSCS (SA, SU, and SV) displayed nearly identical coefficient alphas as those found in the CSCS. Additionally, the APCSCS was significantly related to the CSCS suggesting that they are tapping similar theoretical constructs. Although developing a measure was not the focus of the current study, it would be appropriate to conduct further analysis on the APCSCS, including confirmatory factor analysis. It would also be appropriate to conduct confirmatory factor analysis on the CSCS to determine if the theoretical factor structure continues to be supported by additional empirical data.



### *Professional Implications*

When working with athletes, it is important for consultants to be sensitive to the perception of coaching staff cohesion and how it may influence team cohesion. Historically, researchers' attention has primarily been focused on investigating athletes' perceptions and behaviors as moderators of team cohesion. Athletes do play a primary role in team cohesion; however, the current study provides initial research support for Martin's (2002) speculation that coaches also influence team cohesion. The coaching staff can be viewed as a team within the team, which must function together with a shared purpose. Theory suggests that athletes are likely to behave in a way that has been modeled to them by the coaching staff, implying that coaching staff cohesion should be considered as a moderating variable of team cohesion (Bandura, 1977; Martin, 2002). Consultants should broaden their perspectives when examining team cohesion to include an analysis of the behaviors of the coaching staff. Further, incorporating coaching staff cohesion exercises in coaching training programs that have been shown to improve coaching efficacy (Sullivan & Kent, 2003) may be warranted.

Addressing potential discrepancies in athletes' and coaches' perceptions of cohesion could be beneficial to sport psychology consultants. Communicating to coaches about their team's perceptions of the coaching staff's cohesion could increase awareness of important behaviors that are within the coaches' control that could positively impact team functioning and performance. For instance, to convey staff attraction to their athletes, coaches could clearly communicate their interest in the team as well as their desire for being a part of the coaching staff.

With the vast majority of teams employing more than one coach, future researchers are encouraged to expand upon the current study regarding the impact of coaching staff cohesion and team cohesion. The current study also provides some initial insight into the possible indirect impact that coaching staff cohesion may have on their team's performance. However more research is needed in this area, specifically linking coaching staff cohesion and team cohesion with actual performance.



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