The Effects of Team Cohesion on Performance: a Study of a College Division III Women's Soccer Team

by

Abigail Paris

Submitted in Partial Fulfillment of the Requirements for the

Degree of Master of Education

May 2015

Graduate Programs in Education

Goucher College

Table of Contents

List of Tables

Abstract

The purpose of the study was to examine the effects of team bonding activities upon the perceptions of cohesion among members of a collegiate women's soccer team and upon the performance of the team. After each of several activities, team members were asked to complete a survey of attitude towards their personal performance and towards the efforts of their fellow team members. A single group pre-test posttest design was used to compare responses to the survey before and after the activities occurred. The null hypothesis that perceptions of cohesion will not increase following activities designed to improve bonding was not supported. However, there was some evidence that players' satisfaction with their own performance and with the team increased slightly as team building activities were implemented. Additional study of the impact of bonding activities upon team performance is recommended.

CHAPTER I

INTRODUCTION

Overview

Success in team sports depends on not only the individual efforts and skills of each team member but also on the ability of all members of the team to work together, enabling one another to do their very best. The concept of cohesion is defined as a group sticking together and acting in a unified way to complete a task. The term cohesion has been used to characterize groups where the individuals stick together, unified in working on a task (Blanchard, Amiot, Perreault, Vallerand, & Provencher, 2009). As a former member of two collegiate sports teams, the investigator had opportunity to observe first-hand the influence of cohesiveness was beneficial. Team members on the more successful of the two seemed to work much more cooperatively on the field. What caused the difference was not clear, but it seemed significant enough to study. Now, as a college coach, the investigator is exploring possible actions to improve team cohesiveness.

Later, as a collegiate coach seeking to improve team performance, the investigator wanted to explore team cohesiveness as a strategy for winning games. An experience prior to the last Conference game involving players sharing with their teammates their beliefs about the strengths of the team and the value of team membership to them encouraged the investigator to examine further the potential of team bonding activities as a means of improving both team cohesiveness and performance.

Problem Statement

The study will investigate the impact of team-building activities on team cohesiveness and team performance.

Null Hypothesis

There are two research null hypotheses that are tested. First, team members' perceptions of cohesion will improve after they experience team-building activities. Second, team members' satisfaction with their performance and the performance of their team following a series of games against conference opponents will improve as team-building activities are implemented throughout the season.

Operational Definitions

Team-building activities are defined as activities to build confidence and trust in oneself as well as team members trusting in each other and is found to relate to athlete persistence, effort, and task performance (Beauchamp & Dunlop, 2011, para. 8). Group cohesiveness is comprised of two components: the first is the individual's attraction to the group and valuing group membership (Chelladurai, 2004); the second is group integration, characterized by positive and effective interaction among group members (Chelladurai, 2004). If participants are attracted to the group and are perceived to be one unit, then the team would be perceived as cohesive (Chelladurai, 2004). Performance in a conference game (as opposed to a non-conference game) counts towards a team's conference record and therefore helps to determine its eligibility to play in the conference semifinals and NCAA tournament. Group cohesiveness is measured by the Group Environment Questionnaire (GEQ; Carron, Bray, & Eys, 2002). The team members' beliefs about the quality and effectiveness of their own efforts are defined by the level of satisfaction of overall individual and team performance. This is measured by the Post Game Feedback Form.

CHAPTER II

REVIEW OF LITERATURE

This literature review seeks to explore team cohesion on college female sports teams. The first section of this review provides an overview of strategies to build team cohesion. Section two explores the impact of psychological needs on cohesion and performance. Section three explores the motivational climate for cohesive teams. Section four discusses interventions that seek to improve coaching styles to promote team cohesion.

Strategies to Build Team Cohesion

There are many aspects to team cohesion. One factor that contributes to team cohesion is team norms. Team norms are not connected to position-specific roles in a player's style. Norms usually evolve through team development. One strategy is that coaches let the players set their own expectations on and off the field together as a group. This will improve an athlete's autonomy and will result in players committing to their own expectations. Thus, it creates higher team cohesion because they will commit to the expectations they set for themselves. Goal-setting strategies have also been proven to enhance team cohesion. According to one article, "they tend to be more committed to the group's endeavors, thus resulting in improved group integration" (Beauchamp & Dunlop, 2011, para. 4).

Self-efficacy is another dynamic to investigate when dealing with team cohesion. Self-efficacy, defined in an article called *Team and Group Dynamics in Sports*, refers to self-efficacy as "a situation-specific form of self-confidence and has been found to be positively related to outcomes such as athlete persistence, effort, and task performance" (Beauchamp & Dunlop, 2011, para. 6). Team-collective efficacy is the members' perceptions about their team as a whole

and their confidence level. This influences team functioning as a whole and has been a determinant of team cohesion. When team members become more confident in each other, the team, as a result, is more cohesive, as well as vise versa (Beauchamp & Dunlop, 2011). In the Making of the Dream Team article, it explains self-efficacy as the individual level of motivation and performance (Goodwin, Rosen, Burke, Fiore & Salas, 2006). Self-efficacy plays a huge role in leadership as well (Smith, Arthur, Hardy, Callow & Williams, 2013). Within a group, collective efficacy is the belief in the team's competence to handle certain environmental demands (Chelladurai, 2004).

Chelladurai (2004) mentions how "a cohesive group is characterized by (a) individual attraction (i.e., an individual values membership in the group) and (b) group integration (i.e., there are perceptions of positive and effective interactions among members) (para. 19). If participants are attracted to the group and are thought to be unified, the team would be believed to be more cohesive. Carron and colleagues created a four-component model of cohesion entailing: (1) attraction to the group task, (2) attraction to the group-social, (3) group integration-task, and (4) group integration-social (as cited in Chelladurai, 2004). This model is meant to cross task and social characteristics with the two categories of cohesion: individual attraction and group integration.

According to a study in 2013, it is noted that highly cohesive teams are likely to work together more effectively, and as a result, will perform better than less cohesive teams (Smith et al., 2013). According to Mach, Dolan, and Tzafrir (2010), "highly cohesive groups tend to be more united and committed to success than groups with little cohesion" (p. 775). Carron and his colleagues found a significant relationship between cohesion and performance, and it was found stronger among women's teams when compared to men's. Suggestions were made that team

building should focus on task-oriented attitudes and interpersonal interactions. This strategy would benefit women's teams (as cited in Chelladuria, 2004).

According to Carron, higher perceptions of cohesion happen when players tend to take on more of the team activities and share the responsibility for negative outcomes. When members of the team seem to be task-integrated, they obtained higher levels of role clarity, role acceptance, role performance, and identifying outside causes for future failures. As a result, being a part of a cohesive team, members of the team tried harder during practice and had a higher level of commitment. One other factor to consider when building cohesion is the size of the group. A smaller group size has been found to be more cohesive, and also leads to conformity of group norms (as cited in Chelladuria, 2004).

Psychological Needs

Psychological safety is "a shared belief that the team is safe for interpersonal risk taking" (Goodwin et al., 2006, para. 20). This kind of safety is something to consider when seeking a strategy to build team cohesion to increase the performance of the team. Psychological safety creates a team environment where players feel they can be themselves, which allows the team to develop a sense of trust (Goodwin et al., 2006). High levels of psychological safety permit players to seek feedback from outside sources. In addition, players can view failure as an opportunity to increase their knowledge and change identified flaws (Goodwin et al., 2006). There is a correlation between the team's learning engagement and the team's level of psychological safety. Psychological safety informs the player of the processes of the individual, team competencies, and how they merge into adaptive-expert team performances (Goodwin et al., 2006).

Autonomy, competence, and relatedness are three basic psychological needs necessary in

order for an athlete to gain self-determination (Blanchard et al., 2009). Autonomy is when athletes initiate and regulate their behavior. The need for competence is when the players are able to interact with each other effectively and are able to prevent conflicting outcomes. The need for relatedness is when players are able to feel connected to their teammates and are able to relate to them. It has been suggested that players develop better in a friendly and warm atmosphere that enhances their psychological well-being environment.

Self-determined forms of motivation are intrinsic motivation. These behaviors foster the three basic needs for self-determination. Non-self-determined types of motivation are amotivation described as "perceive a lack of contingency between their behavior and outcomes; there experience of incompetence and lack of control" (Vallerand & Bissonnette, 1992, p.602), introjected regulation meaning "individuals begin to internalize the reasons for their actions; the source of control is inside the individual" and external regulation which "occurs when behavior is externally regulated (usually through rewards or constraints)" (Vallerand & Bissonnette, 1992, p. 600**).** These behaviors negatively affect self-determination among athletes (Blanchard et al., 2009). As a result of the research, it is shown that there is a correlation between social factors, psychological needs, and self-determined motivation in sports, which are determined by the individual's level of autonomy and competence (Blanchard et al., 2009).

Motivational Climate

Trust is positivity related to performance (Mach, et al., 2010). According to one study, high levels of team trust will increase the chances of better team performance (Mach et al., 2010). Trust adds value to a team by allowing the members to work well towards achieving their goals, thus creating a better team performance. One possible reason for increased cohesion relating to trust within the team is rooted in the norm of reciprocity. This suggests that players

help and do things for other players who help them. This then allows the team to work towards achieving the collective goal because everyone wants to help each other.

The most effective element for highly skilled teams is a coach that provides necessary caring and emotional support because the players themselves are already task oriented. Therefore, it is important to balance out the task-oriented mindset by meeting other psychological needs. However, "on less skilled or less competitive teams, successful coaches are those who are capable of focusing players attention on the goal of winning" (Bird, 1977, p. 222). An effective coaching style requires an adjustment according to the level of skill or competition of the players you are coaching.

Co-acting teams are sports such as bowling, archery, and riflery. They perform independently when trying to reach their goal; these types of teams are known as individual sports. The sum or average of their performance determines the success of the team. Co-acting teams are successful when cohesion is seen as low. Interacting teams are sports like basketball, soccer, and football. They are defined as groups coming together to accomplish and achieve success. These teams are found to have more success when team cohesion is high because they are working together as one unit (Bird, 1977).

Competitive athletes who are on competitive teams are more passionate about their sport, which in turn allows them to have higher perceptions of cohesion than recreational athletes (Paradis, Martin, & Carron, 2012). According to Paradis, et al. (2012), "If one athlete is not as passionate as the rest of the athletes on the team, cohesion may suffer because that one athlete may not share the same drive and desire to achieve the team's goals and objectives as the rest of the team" (p. 29-30). Very passionate athletes tend to place more importance on the task and become a cohesive team by being united and committed to strive for the same goals (Paradis et

al., 2012). Thus, if everyone has this high commitment, high team cohesion involving the task will increase as a result. The article found, "harmonious passion to be associated with better coach-athlete relationships," and found it to be "related to better quality of interpersonal relationships, feelings of closeness, and feelings of connectedness" (Paradis et al., 2012, p. 28).

When discussing climates, it is important to know that a task involving climate and ego-involved climate predicts high levels of relatedness. In addition, perceptions of autonomy and competence were there too, but not as prominently. This demonstrates a link between the three psychological needs and the coach's interpersonal approach. The results of some studies show the link between team cohesion and motivation. One thing that strengthens relatedness is a task-involving climate. Research shows that "task cohesiveness was a predictor of autonomy and competence as well" (Blanchard et al., 2009, p. 550). Cooperative learning was also helpful to produce a perception of social belonging, which can produce relatedness (Blanchard et al., 2009). In team sports, higher competence or relatedness may be more important for predicting self-determination among athletes in sports.

Coaching Styles

Team leadership is something to examine when looking at the impact it has on sports teams. Shared leadership happens among team members in order to take advantage of members' strengths, such as knowledge, skills, attitudes, perspective, and time availability (Goodwin et al., 2006). Shared leadership is determined by the demand of the environment and the level of the team. When leadership is shared, the team can adapt to situations by sifting leadership functions. This can help the team effectively move toward their goal. A formal leader can be effective by creating a climate where shared leadership is welcomed (Goodwin et al., 2006).

In a study involving women's walking groups, "findings suggested that group leaders

who are enthusiastic, have the ability to motivate their group members, are able to provide personal instruction to each group member, and are available outside of the group for further advice. Leaders with such traits would likely develop greater cohesiveness within their groups" (Caperchione, Mummery & Duncan, 2011, p. 328). The article found that women preferred social necessities, such as guidance and reassurance of their worth to the team. They thought this was important from their leader for their team environment. However, social necessities among men were not important. As a result, this shows that social cohesion is a factor in women's physical activity. The study showed that leadership and group cohesion might impact the behavior of women during physical activity (Caperchione et al., 2011).

A coach can play a major role in fostering group cohesion and healthy team culture. Coaches who have transformational leadership "involves the building of relationships with followers through personal, emotional, and inspirational exchanges, so that they are motivated to perform beyond the level of the normal expectations" (Smith et al., 2013, p. 249). Thus, they create higher motivation among athletes and greater group cohesion. Transformational behaviors among coaches help athletes go beyond their self-interest for the good of the group and give their group members the confidence to excel. As a result of this transformational leadership, athletes display more intrinsic motivation. (Beauchamp & Dunlop, 2011). According to Smith, "there are six distinct transformational behaviors: high performance expectations, appropriate role modeling, inspirational motivation, intellectual stimulation, individual consideration, and fostering acceptance of group goals and teamwork" (Smith et al., 2013, p. 250).

The Smith et al. 2013 study focused on three transformational leadership behaviors that were found to predict positive task cohesion: individual consideration, fostering acceptance of group goals, and high performance expectations. When the coach shows concern for players'

personal feelings and needs, it is considered individual consideration—the first of the three transformational leadership behaviors. A second behavior is exhibited when the coach influences players to work together to develop and achieve team goals they set for themselves—an example of fostering acceptance of group goals and teamwork. This allows players to set their own goals and to work toward achieving these common goals, fostering higher cohesiveness. The third behavior occurs when the coach expects high quality success from the team and each player's best efforts—known as high-performance expectations (Smith et al., 2013). When the coach has high performance expectations, the team then adopts a similar mindset, coming together and working harder for each other to achieve the expected result (Smith et al., 2013).

Individual consideration allows the coach to "blend the player's individual talents into a cohesive working unit" (Smith et al., 2013, p. 250). The study then goes on to describe it as "embodying attentive listening, addressing individuals needs, and establishing a one-to-one relationship" (Smith et al., 2013). This will help improve team communication.

Communication is a key factor in the model of team building and bonding. The leadership within the team influences processes like communication, which in turn influences the development of team cohesion. Communication seems to be central to the social dynamic of groups, and while it does play a role in task cohesion, it does not play a role in social cohesion. Smith and colleagues say, "intra-team communication was related to task cohesion, with communication acceptance and positive conflict displaying a significant positive relationship, and negative conflict a significant negative relationship with task cohesion" (Smith et al., 2013, p. 255).

One form of communication is the style the coach uses to communicate with their players. According to Blanchard, "Coaches' controlling interpersonal style was negatively

associated with perceptions of autonomy" (Blanchard et al., 2009, p. 549). However, it did not predict low levels of competence and relatedness (Blanchard et al., 2009). The study referenced by Blanchard took place in the beginning of the basketball season, so the players might not have had a chance to perceive competence or relatedness (Blanchard et al., 2009). It was revealed that there is a significant relationship between relatedness, competence, and autonomy with self-determination. This outcome created positive emotions and satisfactions with their sport (Blanchard et al., 2009). Cohesiveness positively predicted all three of these measures, but the strongest one is relatedness, followed by autonomy and competence (Blanchard et al., 2009).

Summary

The literature suggests that there is a positive relationship between high levels of team cohesion and team performance. In addition, the type of coaching style can impact both motivation and cohesion. Studies show that task cohesion promotes all three basic psychological needs, which are autonomy, competence, and relatedness. However, emphasis is placed on relatedness. Relatedness seems to be key in cohesive teams. Players need to feel connected to their teammates and relate to them in order to gain relatedness as a psychological need. Autonomy, on the other hand, promotes the best team performance outcome. This occurs when athletes initiate and regulate their behavior. Having a transformational leadership style seems to promote all three, and it is the best quality to have as a coach.

CHAPTER III

METHODS

Design

A single-group pretest posttest design was used to compare perceptions of team cohesiveness before and after a series of building activities were provided.

Participants

Participants included 19 females, ages 17 through 22, all members of the Goucher Women's Soccer Team. The team included four freshman, five sophomores, six juniors, and four seniors. Goucher College is a private liberal arts college that competes in NCAA Division III, so there are no athletic scholarships given. The college, located in suburban Baltimore, Maryland, is a member of the Landmark Conference, which includes 9 schools in Maryland, Pennsylvania, New Jersey, New York, and Washington, D.C. All the schools but one in the conference are private institutions, with the one being federal. The enrollment range for this conference is between 1,449 and 5,510.

Instrument

The Group Environment Questionnaire (GEQ; Carron, Bray, & Eys, 2002), a widely used measure of group cohesion in athletics, was adapted for use in this study. The GEQ is designed to assess group cohesion in sports and is based upon the theory that cohesion involves individuals' attraction to the team as a social group and to the task per se as well as their perceptions about how well the team functions as a cohesive group and how well the team works together to perform well. The GEQ items are divided into four scales: nine items address the attraction factor and nine address the group functioning factor. According to the authors, these four scales function as expected and show internal consistency with reliabilities exceeding 0.90.

In order to comply with College procedures, the investigator together with the head coach revised and shortened the GEQ. The original 18 items were reduced to 9, and all items were stated positively. As a result, four items address individual attraction, 3 to the group socially and one to the task. Five items address group issues, one group social involvement and one group of 4 address group task attitudes and behavior.

According to GEQ, the analysis of responses to the revised forms supported most internal consistency reliability on the pretest and posttest for the group item cluster and for the "Individual Attraction" cluster on the posttest only. Since the original scale was adapted for purposes of this study, the investigator sought to establish that the revised instrument measured the same traits in the same way as the original scale. The investigator used principal components analysis to verify that the expected grouping of items occurred. Participants' beliefs about the team's performance, cohesion and their attraction to their team socially remained generally constant over time. On the pretest, nearly all respondents indicated strong "Individual Attraction," hence no significant correlations among the items. Further analysis of this revised GEQ was conducted through a factor analysis of the items on each form again to determine how closely they resembled similar analyses of the original GEQ. Once again, the results supported the two independent clusters—individual attraction and group. A few items moved from one dimension to the other on the posttest, but the number of respondents is too small to draw any inferences from this. The investigator computed separate Individual Attraction (items 1, 2, 3, and 8) and Group scores (items 4, 5, 7, and 7) based upon the original assignment of these items to the GEQ scores. Analysis of these subscales produced acceptable reliabilities (internal consistency and test-retest). The pretest individual and group cluster scores were correlated negatively but not significantly ($r = -.39$, $p<.10$) and the posttest individual and group cluster

scores were slightly correlated ($r = 0.09, p<.001$) suggesting they are independent as expected. On the other hand, the Individual cluster scores were correlated at 0.323 ($p<.10$) and 0.745 ($p<.001$) for pretest and posttest, strongly supporting the group dimension. The Individual cluster is more problematic, mainly because one of the four items clustered differently on the pre and post measures. Nonetheless, the cluster scores will be used in this study.

The five-question feedback form focuses on team members' views of their own performance (Items 1 and 2) and the team performance (Items 3, 4, and 5). Examining responses to these forms after each game supports these two clusters. Pretest-posttest correlations overall of responses to the surveys were mixed, in four of the nine surveys compared, correlations approximated or exceeded 0.500. Data was collected from the game stats after each game to illustrate team performance. Offensively, corner kicks, shots, shots on goal, assists, and goals were tracked. Defensively, corners given up, shots on goal, keeper saves, goals allowed, and team saves were tracked. As a whole, I tracked passing percentage and possession percentage during the game.

Procedure

The head coach of the Goucher women's soccer team granted permission to conduct the study after hearing what was involved, including the intervention ideas. The head coach did feel, however, that the original GEQ was too negative and long and asked to change the language to positive statements and ask fewer questions. A pre-measure was conducted once the season started. There was an administered pre-test survey before the first game of the season, which was the Group Environment Questionnaire. Before the questionnaire, the team was together for one week. During this week, they did a ropes course, which is a series of activities involving trust, working together and everyone having a role in order to complete the task. They performed other

small team-building activities and where divided in four teams consisting of 4–5 players in each. Each activity was worth points and the winner won extra gear. These activities consisted of a question of the day, spaghetti towers, car-riding activity, team handshake, a dessert contest, and a blindfolded obstacle course. A majority of the activities where judged by the coaches. The question of the day was a question they had to answer individually for the team to get to know each other (e.g., if could have any super power what would it be and why). The spaghetti towers activity is when each team is given a certain amount of spaghetti and gumdrops to build a tower in five minutes without talking. The team was given two minutes to talk before they started to build. For the car riding activity, the driver of each team had to pretend to pick up their teammate and mimic the new teammates' behavior that was picked up. The blindfolded obstacle course happened toward the end of the week. Each person had to be led by a teammate through the obstacle course blindfolded.

Midseason, the team filled out the five-question feedback form starting on September 29 after the first conference game to measure their views on individual and team performance. The first intervention happened midseason on October 1, in which before practice, everyone had to say something they admired about their domestic partner/spark buddy. A domestic partner/spark buddy is someone the player goes to for motivation or a "pick me up." The next intervention was exactly a week later on October 8 where the team discussed how they would treat the last five games like a new season. Each member shared what was most frustrating about the season, be it individually or as a team. The coaching staff discussed that anyone could leave if she did not want to be all in for the remainder of the season. The coaching staff left the team to discuss what they expected from each other and the season before the coaches started practice. The team decided to line up on the edge of the field and take their first step together at the same time. They

did that before every game for the remainder of the season. The third intervention was before a Landmark Conference game on October 11 that was called fun facts. The team emailed a coach four fun facts about themselves. The team was divided into two groups. Each envelope had fun facts about the opposite team. After a fun fact of one team was read, the group had to guess which person it was on the other team. Two coaches were placed on each team so the teams had them as options as well. The following week, the fourth intervention was on October 13, an Amazing Race-style game and the team was divided up into four groups. During the amazing race, they had to complete activities along the way before they could get to the finish line. A post-measure was conducted using the Group Environment Questionnaire after the last game of the season.

CHAPTER IV

RESULTS

The null hypothesis that members of a collegiate soccer team will express increase feelings of team cohesion following team building activities was not supported. However, the null hypothesis that team members' satisfaction with the team will increase following the activities was partially supported.

Below are tables to describe the results of the study.

Hypothesis 1

As Table 1 suggests, the null hypothesis that members of a collegiate soccer team will express an increased sense of team cohesion following participation in a set of team bonding activities was not supported.

Table 1

Responses to the Group Environment Questionnaire Items Pre- and Post-Season

		Pretest		Posttest			Difference	Significance
Measure	N	Mean	Standard Deviation	Mean	Standard Deviation	N		
Individual Attraction	16	7.81	2.40	7.43	2.36	17	0.37	t= 0.58 ns
Group Cohesion	15	10.00	4.70	11.87	3.68	16	1.87	t=1.73 p<.10

As Table 1 indicates, participants' GEQ scores showed little change from the beginning to the end of the sports season, particularly on the Individual Attraction items. There was some shift negatively (note that the lower the score, the more positive the response) from beginning to end on the Group Performance items. Participants' perceptions of attraction to their team socially and their beliefs about the team's performance and cohesion remained generally constant over time; however, their perceptions about their team's performance became slightly more negative as the season progressed. Although the influence of the team's actual winning and losing of games cannot be measured—all but the final games were losses—it is certainly likely that the team's lack of success on the field may have affected those perceptions, notwithstanding the implementation of team bonding activities.

Hypothesis 2

As Table 2 suggests, the hypothesis that team members would experience increased satisfaction with their own skills and performance and with the team's effort and performance as team building activities were provided during the season received some support.

Table 2

Team Attitudes Towards Their Own and Their Team's Performance and Effort Following Selected Conference Games

		Game 1	Game 2	Game 5	Game 8	Game 9
Statistic						
Game Outcome		Lost	Lost	Lost	Won	Won
Individual Performance	Mean	5.92	5.55	6.35	6.91	7.35

	SD	1.59	2.29	1.94	2.27	2.26
	N	14	9	14	12	99
Group Performance	Mean	12.76	9.22	10.93	11.84	12.94
	SD	1.09	1.48	1.84	1.57	1.98
	N	17	9	16	13	18

As Table 2 describes, average response to the two items concerning individual performance (higher score indicates more positive response) became slightly more positive over time. The t-value for the Game 1 versus Game 9 comparison = 4.24, $p<.001$. For assessments of team performance, results were somewhat less clear. The estimate of group performance and effort was fairly high following the first game, but dropped significantly after the second game ($t = 5.017$, $p<.002$). However, in subsequent games, that perception became more positive. By the final game, there was no significant difference in perceptions about team effort compared to the first game. Here, too, the team's performance record—no wins until the final two games—may have affected these perceptions.

Third, in order to explore further the possible influence of team performance on these perceptions, the impact of skill and performance differences among team members on perceptions about the team and their relationship to it was examined. The four different team members in the field who scored the most points, took the most shots, and had the most shots on goal were identified. The perceptions of this highly productive group, which also included the goalkeeper who played and performed well in nearly every game, were compared to those of their teammates. Table 3 below describes the results of this analysis.

Table 3

Perceptions of High Performers and Their Teammates about the Team and Their Relationship to it

Statistic	High Performers (N=5)	Other (N=13)	Difference
GSE Pre INDIVIDUAL Mean	6.80	7.92	N s
GSE Pre INDIVIDUAL SD	1.48	2.69	
GSE Post INDIVIDUAL Mean	7.60	7.08	ns
GSE Post INDIVIDUAL SD	2.07	2.64	
GSE Pre GROUP Mean	9.80	9.69	ns
GSE Pre Group SD	2.16	5.29	
GSE Post GROUP Mean	13.40	10.75	ns
GSE Post GROUP SD	3.84	3.72	

FOOTNOTE to Table 3: Because various team members chose not to respond to certain items and were absent from various survey administrations, comparisons between pre- and post-results must be done carefully.

It is interesting to note here that whereas none of the contrasts between the high performers and other team members were statistically significant, the high performing students

were less positive than their teammates concerning the group following the season. Attitudes towards their individual interest and closeness to the team were very similar for the two groups.

Related to this analysis, high performers and their teammates were also compared on their post-game survey responses following the first fifth (mid-season), and the final game. On the two-item scale addressing perceptions about their own individual effort and performance, high performers demonstrated a less positive attitude (higher scores) as the season progressed whereas other team members were constant in their perceptions about their own efforts and performance. On the three-item scale addressing perceptions about the team, neither group showed a consistent pattern although compared to the first game, high performers were more positive than their teammates after the final game. Interestingly, of the three games reported, the team won only the final game.

Table 4

Perceptions by High Performers and their Teammates About Individual and Team Effort and Performance Early (Game 1), Mid-Season (Game 5), and End of Season (Game 9)

9	Team	11.40	0.89	13.53	1.98	P<.03
Game	Focus	High Performers		Other		Difference
		Mean	SD	Mean	SD	
1	Individual	5.75	0.95	6.00	1.82	Ns
1	Team	12.00	0.81	13.00	1.08	Ns
5	Individual	6.75	0.95	6.20	2.25	Ns
5	Team	11.00	1.41	10.90	2.07	NS
9	Individual	8.60	1.34	6.83	2.40	NS

CHAPTER V

DISCUSSION

The first null hypothesis—the team members' perceptions of cohesion will improve after they experience team-bonding activities—was not supported. The second null hypothesis—the team members' satisfaction with their performance and the performance of their team following a series of games against conference opponents will improve as team-building activities are implemented throughout the season—received some support.

Implications of the Results

The result indicated that team members' perceptions about their teammates, particularly their interest in engaging socially, remained about the same throughout the season and seemed to be unaffected by the intervention activities. Their perceptions about team members putting forth effort and working together for the good of the team actually became somewhat less positive as the season progressed. This may be a result of losing a senior captain to injury in the beginning of the season. She was a key player that helped kept the team glued together on the field, as she played an important position. Frustrations of playing well but unable to score might as well be a factor that might have affected the player's attitidue. However, it was interesting to note that the team appeared to play more aggressively and overall better when interventions were provided before a game. There was no sufficient data, however, to support inferences about the influence of the interventions. Relationships between the intervention activities, team members' sense of cohension, and team performance are complicated and the findings ambiguous. The interventions themselves may or may not have affected the team members' perceptions about themselves as players and about their team members' effort and performance. The interventions may or may not

have affected how the team played. The team's overall poor performance may or may not have been a reflection of a lack of cohesiveness or the players' perceptions about cohesiveness might or might not have been a result of the performance. Relationships between the intervention activities, team members' sense of cohesion, and team performance are complicated, however, and the implications of the findings are unclear.

The impact of skill and performance differences among team members on perceptions about the team and their relationship to it was examined in order to explore further possible influence of team performance on these perceptions. It was found that high performing students were less positive than their teammates concerning the group following the season and demonstrated less positive attitudes as the season progress based off the after game surveys. This might be a result of losing games and not performing well. Attitudes towards their individual interest and closeness to the team were similar for both groups (high performers and team). Team members were constant in their perceptions about their own efforts and performance according to the after game surveys. There was not a consistent pattern for either group when addressing perceptions of the team. Although, compared to the first game, high performers were more positive after the final game, which the team happened to win. This could be because the high performers did their job and scored, winning the game. The final game was the only game out the three selected that the team won.

Theoretical Consequences

The results of this study concerning the effectiveness of strategies to increase team cohesion and the effects of those strategies on performance did not support the research suggesting that the perceptions by college athletic team members about their teammates and their

sport can be changed. A positive impact on team performance of improving those perceptions was not demonstrated. The timing, duration, and relevance of the activities comprising the "intervention," however, will be reviewed by the investigator.

Threats to the Validity

One threat to validity is the small sample size. The study only examined one collegiate Division III women's soccer team with 19 members. The results could be unique to that specific team and have no way in determining if it could apply to multiple teams. Opening it up to more teams will allow for more consistent patterns to appear and find more correlations.

Interventions were implemented throughout the season but not on a consistent basis. The major bonding activities actually occurred before the season began. The team did not take the GEQ until after being together for two weeks and before the first game of the season, leaving the pervious team-bonding activities impacting the base GEQ scores. The second round of interventions were implemented one month into the season. Beyond the effects of this intervention, the question of the impact of cohesion on individual and team performance and on team members' perceptions about themselves, their own performance, and the performance of the team is a complex one. More research on the effectiveness of the interventions themselves implemented more frequently and strategically is merited.

Honesty of member's responses to the Group Environment Questionnaire and after game survey could be a factor to consider because the surveys were not anonymous. The surveys had to label with their name so the data could be tracked throughout the season. As well, people who did not play that game might have left some questions blank, which could have affected the results.

The last threat to validity is the influence of team performance and win-loss record on the results. There was no way to examine how results might have been different had the team won more games or at least scored more points. This could have influenced both satisfaction of both own and team's skills, effort and performance and increased sense of team cohesion.

Connections to Previous Studies/Existing Literature

According to the research highly cohesive teams are likely to work together more effectively and perform better than less cohesive teams (Smith et al., 2013). One thing that research states that smaller group size lead to conformity of group norms, thus making it more cohesive (Chelladuria, 2004). Although one activity involved making smaller groups the team did not stay in the small group for the remaining of the season. The bigger group size activities may not have been as effective.

One article suggests that players set their own goals for the season. Beauchamp and Dunlop (2011) mention, "they tend to be more committed to the group's endeavors, thus resulting in improved group integration" (para.4). The team had set team goals for each game with specific performance numbers. Like for example how many shots a game they wanted, how many shots they will allow the other team to get, how many corners they got, how many corners the team allowed against them and how much the total percentage of possession the team had. Mid way through due to a losing season the team reevaluated the numbers they committed to for each one to make them more in reach for the team accomplish them.

Implementing self-efficacy and team-collective efficacy are strategies the research suggests to promote cohesion. One deals with self-confidence and the other is confidence in their team members (Beauchamp & Dunlop, 2011, para.6). The activity dealing with saying

something they admired about the domestic partner/spark buddy and why they choose that person improved both self-efficacy and team-collective efficacy. This allowed the team to see their individual value to the team and what characteristics they bring to the team.

Implications for Future Research

Since the study included a single team and single intervention strategy, it is difficult to generalize about building cohesiveness and its effects on performance. Expanding this research to multiple teams would be something to consider and would make the study more valid. There could be comparable data for similar seasons among teams. Since teams could go through many different but similar situations, having a bigger pool of teams could help to compare data to another team that might have went through the same situation. One example could be looking at team who lost one of their captains or key players due to injury. It would be interesting to see how that might affect a team socially and performance wise. Another group of teams you could compare data is a successful team that had a winning season. The researcher could compare teams that only won their conference. One idea could be to compare teams that make an appearance in the NCAA Division III semifinals and finals. You could compare the top four teams and see which of the four were the most cohesive and see if that had anything to do with the outcome. This will help the study be more valid and may show important patterns in the data.

One thing to look into for future research would be to look at different Division levels at a college/university to see if there is a difference. Location and size of the school might play a factor in how teams interact, especially outside of practice and season. A bigger school might open up the team to more social groups and organizations that they might spend their time in. It also has more demands athletically, which could possibly increase the team's interactions.

One last area to look into is opening this study up to men's teams as well. Gender differences are interesting to research and see similarities and differences if there are any. This would helpful to understand what might be important for women versus men for coaches who may coach co-ed teams or a gendered specific team. It would be beneficial to know what might need to be emphasized when coaching a certain gender.

Conclusions/Summary

The many individual, group, and environmental factors that affect the athletic performance of a team make it difficult to isolate the effects of a single variable such as cohesion. Although there is considerable research to support the idea that a team members who are close to one another socially and trust that their teammates are performing as well as they can will themselves perform better and win more games, designing and applying strategies that apply this research and demonstrate improved performance can be problematic. Individual attitudes, personalities, motivation, and beliefs as well as skill levels, individual injuries that impact performance, the role of the coach and how the coach is perceived by different players, the quality of the competition—all these factors play a role in the outcome of each game. However, performance in sports requiring individuals to cooperate with and support fellow players is affected by relationships and attitudes, and, as a coach, the investigator will continue to seek out ways of supporting team performance through strategies that promise to improve players' attitudes and confidence in their own skills and their support for their teammates.

Appendix A.

Group Environment Questionnaire (GEQ)

Name:_____ Team:_____ Date:_____

This questionnaire is designed to assess your perceptions of your team. There are no wrong or right answers, so please give your immediate reaction. Some of the questions may seem repetitive, but please answer ALL questions. Your personal responses will be kept in strictest confidence.

The following statements are designed to assess your feelings about YOUR PERSONAL INVOLVEMENT with this team. Please CIRCLE a number from 1 to 9 to indicate your level of agreement with each of these statements.

1. I enjoy being a part of the social activities of this team.

1 2 3 4 5 6 7 8 9

Strongly Agree Strongly Disagree

2. For me, this team is one of the most important social groups to which I belong.

1 2 3 4 5 6 7 8 9

Strongly Agree Strongly Disagree

3. Some of my best friends are on this team.

1 2 3 4 5 6 7 8 9

Strongly Agree Strongly Disagree

The following statements are designed to assess your perceptions of YOUR TEAM AS A WHOLE. Please CIRCLE a number from 1 to 9 to indicate your level of agreement with each of

these statements.

4. Our team is united in trying to reach its goals for performance.

1 2 3 4 5 6 7 8 9

Strongly Agree Strongly Disagree

5. We all take responsibility for any loss or poor performance by our team.

1 2 3 4 5 6 7 8 9

Strongly Agree Strongly Disagree

6. Our team would like to spend time together in the off season.

1 2 3 4 5 6 7 8 9

Strongly Agree Strongly Disagree

7. If members of our team have problems in practice, everyone wants to help them so we can get back together again.

1 2 3 4 5 6 7 8 9

Strongly Agree Strongly Disagree

8. Members of our team stick together outside of practice and games.

1 2 3 4 5 6 7 8 9

Strongly Agree Strongly Disagree

9. Our team members communicate freely about each athlete's responsibilities during competition or practice.

1	2	3	4	5	6	7	8	9
Strongly Agree								Strongly Disagree

Appendix B.

Name:_____ Game:_____ Class/Year:_____

1. How satisfied were you with your performance during the game?

1	2	3	4	5
Not satisfied				*Very satisfied*

2. Could you have played better or done more?

1	2	3	4	5
Could have played better				*Played well*

3. How satisfied were you with the team's performance?

1	2	3	4	5
Not satisfied				*Very satisfied*

4. Could the team have tried harder or done more?

1	2	3	4	5
Did not try hard				*tried hard*

5. How well did the team play together?

1	2	3	4	5
Did not play well				*Played Well*

References

Beauchamp, M. & Dunlop, W. (2011). Team and group dynamics in sports. In *Encyclopedia of sports Medicine*. Retrieved from http://www.credoreference.com/entry/sagesportsmed/team_and_group_dynamics_in_sports

Bird, A. M. (1977). Team structure and success as related to cohesiveness and leadership. *Journal of Social Psychology*, 103(2), 217. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=5391042&site=ehost-live

Blanchard, C. M., Amiot, C. E., Perreault, S., Vallerand, R. J., & Provencher, P. (2009). Cohesiveness, coach's interpersonal style and psychological needs: Their effects on self-determination and athletes' subjective well-being. *Psychology of Sport and Exercise,* 10(5), 545-551. doi:http://dx.doi.org/10.1016/j.psychsport.2009.02.005

Caperchione, C., Mummery, W. K., & Duncan, M. (2011). Investigating the relationship between leader behaviours and group cohesion within women's walking groups. *Journal of Science and Medicine in Sport,* 14(4), 325-330. doi:http://dx.doi.org/10.1016/j.jsams.2011.03.005

Carron, Albert V., Bray, Steven R. & Eys, Mark A. (2002). Team cohesion and team success in sport. *Journal of Sports Sciences*, 20(2). 119-126. doi: http://dx.doi.org/10.1080/026404102317200828

Chelladuri, P. (2004). Group dynamics in sport. *Encyclopedia of Applied Psychology*. Retrieved from http://www.credoreference.com/entry/estappliedpsyc/group_dynamics_in_sport

Goodwin, G., Rosen, M., Burke, C., Fiore, S., & Salas, E. (2006). The making of the dream

team: when expert teams do best. *Cambridge Handbook of Expertise and Expert Performance*. Retrieved from http://www.credoreference.com/entry/cupexpert/the_making_of_a_dream_team_when_expert_teams_do_best

Mach, M., Dolan, S., & Tzafrir, S. (2010). The differential effect of team members' trust on team performance: The mediation role of team cohesion. *Journal of Occupational & Organizational Psychology*, 83(3), 771-794. doi:10.1348/096317909X473903.

Paradis, K., Martin, L., & Carron, A. (2012). Examining the relationship between passion and perceptions of cohesion in athletes. *Sport & Exercise Psychology Review*, 8(1), 22-31. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=72371455&site=ehost-live

Smith, M. J., Arthur, C. A., Hardy, J., Callow, N., & Williams, D. (2013). Transformational leadership and task cohesion in sport: the mediating role of intrateam communication. *Psychology of Sport and Exercise*, 14(2), 249-257. doi:http://dx.doi.org/10.1016/j.psychsport.2012.10.002

Vallerand, R. J., & Bissonnette, R. (1992). Intrinsic, extrinsic, and amotivational styles as predictors of behavior: a prospective study. *Journal of Personality*, 60(3), 599-620. doi:10.1111/1467-6494.ep9209210978. Retrieved from https://goucher.idm.oclc.org/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=9209210978&site=ehost-live