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The Relationship Between Athletes' Perceptions Of Coaching Efficacy And Collective Efficacy In Collegiate Soccer

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THE RELATIONSHIP BETWEEN ATHLETES' PERCEPTIONS OF COACHING EFFICACY AND COLLECTIVE EFFICACY IN COLLEGIATE SOCCER

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This Thesis, submitted by Frazer Atkinson in partial fulfilment of the requirement for the Degree of Master of Science in Kinesiology from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and herby approved.

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Frazer Atkinson
April 26, 2016

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My Mum and Dad, and my two brothers Ross and Callum
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ABSTRACT

This study examined the relationship between athletes' perceptions of their coaches' confidence and team confidence in a sample of 272 collegiate soccer players (*M* = 19.84 years; *SD* = 1.42) from the NCAA and NAIA. Athletes' perceptions of their coaches' confidence were assessed using a modified version of the Coaching Efficacy Scale (CES) (Feltz, Chase, Moritz & Sullivan, 1999), and a single item measure asked participants to rate their perceptions of their coaches' confidence. Team confidence was assessed using the Collective Efficacy Questionnaire for Sport (CEQS) (Short, Sullivan & Feltz, 2005). Athletes also reported the results of their team's previous ten games. Results showed that athletes who perceived their coaches to be "just right" in confidence had more confidence in their team. Additionally, athletes on winning teams had more confidence in their coach and in their team's capabilities than losing teams. Finally, correlations among the subscales from the CES and CEQS were all statistically significant. Results suggest that athletes' perceptions of their coaches' confidence relates to team confidence.

CHAPTER I

INTRODUCTION

In team sports there has been a host of research on efficacy beliefs. Coaching efficacy is the belief coaches have in their ability to affect the learning and performance of their athletes (Feltz et al., 1999). Collective efficacy was defined by Bandura (1997) as "a group's shared beliefs in its conjoint capabilities to organize and execute the course of action required to produce given levels of attainment" (p.477). Researchers have yet to identify the relationship between the athletes' perceptions of the coaches' efficacy and its relationship with collective efficacy.

"In the pool you heard a lot of guys complaining: 'I just don't know what he wants.'

"He had me doubting everything"- Rio Ferdinand (Ferdinand, 2014)

The quote above is from former Manchester United star Rio Ferdinand, discussing his playing experience under the coaching techniques and tactics used by former Manchester United manager/coach David Moyes. It could be inferred from the statement that whilst playing under Moyes, Rio Ferdinand and the players at Manchester United didn't have much confidence in the coach's ability to lead the team to success. Theoretically, this lack of confidence in the coach could impact the teams overall collective efficacy. If a coach doesn't have his team believing in his coaching qualities then the collective belief and performance of the team can suffer as a consequence (Feltz et al., 1999).

Collective Efficacy in Sport. The study of collective efficacy in sport includes research on its conceptualization, theoretical structure (sources and

outcomes: see Figure 1), and measurement. The value of this construct primarily lies with its relationship to behavioural outcomes related to performance in sport. Among other things, collective efficacy determines how well the group use its resources, how much effort members put into their group endeavour, and their willingness to stay and persist when results are not initially met (Bandura, 2000). Other outcomes of collective efficacy in sport are goal setting, commitment, satisfaction, and anxiety (Feltz & Lirgg, 1998).

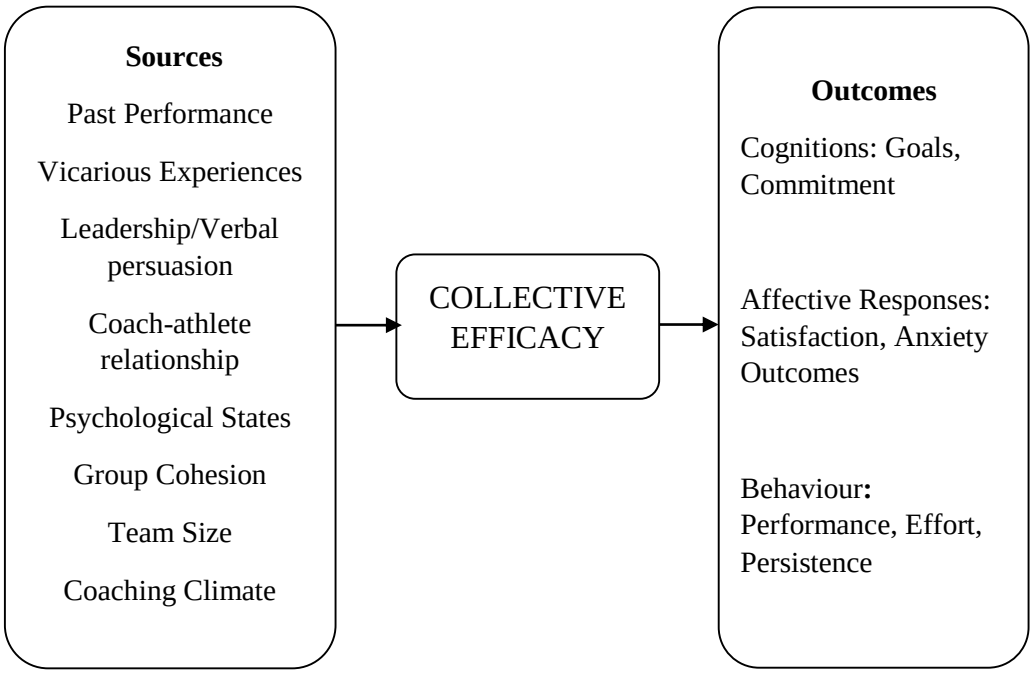

Figure 1: Sources and Outcomes of Collective Efficacy.

In terms of sources, researchers studying collective efficacy in team sports have identified past performance, vicarious experiences, leadership/verbal persuasion, coach-athlete relationships, psychological states, group cohesion, the size of the team and the coaching climate as sources that affect the collective efficacy of the team (Feltz & Lirgg, 2001). This area of the paper will discuss a selection of some of the research articles on some of these identified sources that are most appropriate for this study.

Team performance is theoretically related to collective efficacy in a reciprocal relationship. Past performance has been recognised as a source of collective efficacy, whereas the ensuing performance of the team has been identified as an outcome based on the teams' collective efficacy. As a source of collective efficacy, researchers have examined the pattern of team efficacy across a season of competition in collegiate ice hockey (Feltz & Lirgg, 1998). In this study, the researchers measured the team efficacy of six hockey teams' using eight items where players were asked to rate their degree of confidence in their team's ability to perform certain aspects related to hockey. Results showed that winning teams held significantly higher efficacy beliefs than those on losing teams. These findings were corroborated by researchers who discovered that past performance in collegiate ice hockey was discerned as the most important source of information for both self and collective efficacy in a team (Chase, Feltz, & Lirgg, 2003).

The collective efficacy of a team can also be affected by the coach of the team. Kozub and McDonnell (2000) stated from their study on collective efficacy in rugby teams, that a coach is in a position to have considerable influence over the development of collective efficacy in a team. This finding was corroborated by Hampson and Jowett's (2014) research on British soccer teams where coach leadership behaviours and coach-athlete relationships were linked with the athletes' perceptions of collective efficacy; the more personally supportive a coach was perceived to be by their athletes, the higher efficacy levels of the team. Additionally, a study on collective efficacy in volleyball showed that positive supportive communication from the coach was the factor most predictive for positive collective efficacy in teams (Fransen et al., 2012). This finding links to the coaching climate set by the coaches (Duda & Balaguer, 2007). Task-involving climates positively

predicted changes in athletes' perceptions of collective efficacy where as an ego-involving climate negatively predicted changes in athletes' perceptions of social cohesion in basketball and handball teams over the course of a playing season (Heuze, Sarrazin, Masiero, Raimbault, & Thomas, 2006).

There have been a number of studies on the outcomes of collective efficacy in sport. A selection of studies that are best suited to this study will be discussed in this section of the paper. Goal setting has been studied as an outcome in relation to collective efficacy. To examine the impact of collective efficacy on effort in a group task, Greenlees Graydon, and Maynard (1999) studied 22 participants who completed three cycle ergometer trials. After each trial, participants received feedback according to the group they were assigned to (high efficacy or low efficacy). Results showed that individuals who were higher in collective efficacy exerted more effort, as inferred from performance times, in pursuits of a goal than individuals of equivalent ability with low collective efficacy. The collective efficacy that an individual possessed in their team influenced both the goals they selected for that team in an activity, and the very activity they choose for the team (Greenlees Graydon, & Maynard, 2000).

As discussed earlier, researchers have found that the ensuing performance of a team is often determined by the collective efficacy beliefs of the team. A study on collective efficacy in collegiate football by Myers, Feltz and Short (2004) showed that measures of aggregated collective efficacy taken prior to performance were positively related to offensive performances in football. These findings were substantiated by Edmonds, Tenenbaum, Kamata, and Johnson's (2009) study in motor racing. They identified that the collective efficacy beliefs in racing teams had a strong positive relationship with subsequent performance at each check point and throughout the race.

Coaching Efficacy in Sport. The coach can have a significant impact on the collective efficacy of the team (Feltz et al., 1999) (See Figure 2). The coaching efficacy model contains four dimensions of efficacy: Motivation, Game Strategy, Coaching Technique and Character Building. Motivation efficacy refers to the coaches' confidence in his or her ability to influence the psychological state of their athletes. Game strategy efficacy is the coaches confidence in his or her ability to lead and coach the team to success. Technique efficacy relates to the coaches' confidence in his or her instructional skills. Character building efficacy is the belief the coach has in his or her ability to influence athletes' personal development and attitude towards sport. These dimensions are measured using the Coaching Efficacy Scale (CES) developed by (Feltz et al., 1999).

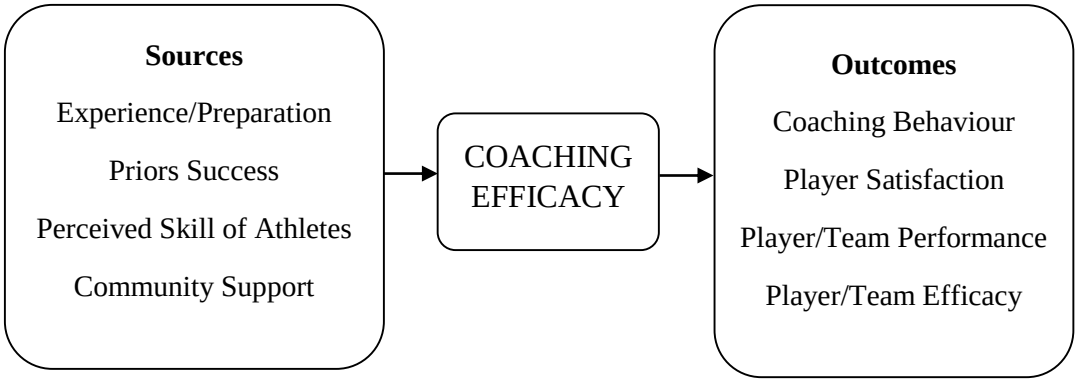

Figure 2: Sources and Outcomes of Coaching Efficacy.

An investigation of the psychometric properties of the instrument was performed by Myers, Vargas-Tonsing, and Feltz (2005) who evaluated previous data using the CES with high school and college coaches in the United States. The results showed that several modifications could be made to increase the precision of the coaching efficacy scale. To expand on this investigation, Myers, Feltz, Chase, Reckase, and Hancock (2008) extended the CES by creating the Coaching Efficacy Scale II -High School Teams (CES II-HST) and the Coaching Efficacy Scale II-

Youth Sport (CES II-YST). These revisions included the addition of a new dimension of coaching efficacy (and CES subscale) called physical conditioning efficacy which was defined as the confidence the coach has to prepare his/her team physically for participation in their sport.

Like collective efficacy, the model of coaching efficacy also contains its own sources and outcomes (Feltz et al., 1999). The sources identified are experience/preparation, prior success, perceived skill of athletes, and community support. Outcomes of coaching efficacy include: coaching behaviour, player satisfaction, player/team performance, and player/team efficacy.

In a study on basketball coaches, Chase, Feltz, Hayashi, and Hepler (2005) stated that player development, followed by coaches' development, knowledge/preparation, leadership skills, player support and past experience were the common sources of coaching efficacy. In addition to these findings, Myers et al.'s (2005) study on collegiate coaches' found that perceived team ability, social support from the athletes' parents and the community, career winning percentage and years as a collegiate head coach were important sources of coaching efficacy.

Coaching education has also been identified as an efficacy enhancing source in coaches. Malete and Feltz (2000) examined the effects of participation in a coaching educational program compared to a control group on coaches' perceived coaching efficacy. The findings showed a significant effect for the coaching education program on the perceived efficacy levels of the trained coaches compared to control coaches. More recently, Sullivan, Paquette, Holt, and Bloom's (2012) study on coaches in youth sport identified that coach education significantly affected coaching efficacy.

Related to the coaching efficacy outcomes, there is limited research in this area. An outcome of coaching efficacy is player/team efficacy (Feltz et al., 1999). Thus, coaching efficacy and collective efficacy have a theoretical connection. More specifically, coaches high in coaching efficacy are theorized to have players and teams who also have high ratings for self and team efficacy. From a different perspective, coaching efficacy can be considered as a source of collective efficacy. Thus, it could be inferred that a coach low in coaching efficacy could affect the collective efficacy of the team as the athletes believe the coach no longer has the ability to improve the team's performance, resulting in low collective efficacy.

The quote below is from New York City soccer player Frank Lampard on his former coach Jose Mouriniho. It shows how an athletes' perception of a coach's efficacy can be related to collective efficacy beliefs.

"Tactically he's fantastic. He's very astute. As a team he sets you up brilliantly. But what he does is he gets the best out of his players and gets this togetherness that I'd never known until he came to the club and haven't seen it again since then."- Frank Lampard (Bloom, 2013).

There has been some research showing the relationship between coaching efficacy and collective efficacy in sport, which included examining coaching efficacy from others' viewpoints. To understand athletes' perceptions of their coach's efficacy, Short and Short (2004) modified the CES and asked athletes to rate how confident they perceived their coach to be. The results in the study showed that the athletes and coaches tended to perceive the coaches' efficacy similarly. Kavussanu, Boardley, Jutkiewicz, Vincent, and Ring (2008) studied coaches' efficacy and athletes' perceptions of their coaches' effectiveness. On a modified version of the CES, athletes rated how effectively their coach used each item of the CES and coaches

completed the original CES. Results showed that the coaches' ratings of coaching efficacy were significantly higher than their athletes' ratings of coaching effectiveness on all dimensions of the CES. Additional research by Boardley, Kavussanu, and Ring (2008) examined the athletes' perceptions of coaching efficacy (i.e., "how effective is your coach in his ability to do the following..."). Results showed that when players perceived their coaches to be high in motivation effectiveness, athletes' were more likely to report trying hard and being dedicated to rugby. Further analyses showed that technique effectiveness predicted athletes' self-efficacy.

To summarize, as exhibited in the literature review, collective efficacy and coaching efficacy have been researched in the field of sport psychology. The review of the literature has successfully identified the extant studies on these two domains and has discussed the findings appropriately. Real life sporting examples have been used to support the content.

The purpose of this study was to explore if there is a relationship between athletes' perceptions of their coaches' efficacy and athletes' efficacy beliefs in their team. It was also hypothesized that athletes who believe that their coach is confident in his/her ability to lead their team to success will have more confidence in their team's capabilities to succeed. Additionally, athletes who believe that their coach is low in confidence in his/her ability to lead their team to success will have less confidence in their team's capabilities to succeed.

CHAPTER II

METHOD

Participants

Athletes from male and female soccer teams in the NCAA (*n* = 734) and the NAIA (*n* = 197) were asked to complete the study. A total of sixty-one teams were used in the study (6.6% response rate). Participants were 271 male (*n* = 86, 31.7%) and female (*n* = 185, 68.3%) collegiate soccer players in the NCAA (*n* = 210, 77.2%) and the NAIA (*n* = 61, 22.8%). The student-athletes involved in the study were college-aged (*M* = 19.84 years, *SD* = 1.42, Range = 18-26*)*. Background information provided by the participants included how many people were on their roster (*M* = 27.28, *SD* = 5.49), and how long they have played under their current coach (*M* = 1.1 years, *SD* = 1.09).

Soccer was the only team sport used in the study. Individual sports were excluded from the study because participants in individual sports do not espouse a collective belief. Similarly to Short et al. (2005), intact teams were used in this study. To ensure that participants weren't nested within teams, teams who had more than 50% of their roster complete the survey, had a number of players cut from the data analysis. Keeping the number of players from each team under 50% ensured the sample was heterogeneous.

Measures

Participants were asked to specify some demographic and background information about themselves (e.g., gender, age, and how long they have played under

their current coach) (see Appendix A). The measures used in this study were the Collective Efficacy Questionnaire for Sports (CEQS) and the Coaching Efficacy Scale (CES), Athletes' perceptions of their coaches' confidence, and the results of their teams past ten games.

Collective Efficacy (see Appendix B). A common scale used in sport psychology research is the Collective Efficacy Questionnaire for Sports (CEQS) developed by Short et al. (2005). The CEQS is comprised of twenty items, forming 5 subscales: Ability, Effort, Unity, Persistence and Preparation. Participants self-report by responding to the question: "please rate how confident you are in your team's ability to do the following" on an 11-point Likert scale (0 = *not at all confident*; 10 = extremely *confident*). Subscale scores are calculated by averaging the ratings for each of the items in that particular subscale, and a total score can also be used as a general collective efficacy measure. Participants who have averaged scores above the midpoint of 5.00 are seen to be either moderate or high in confidence. Scores below the midpoint signify that the participant is lower in confidence.

Reliability of the CEQS, shown by Cronbach's Alpha, was .96 for the total score when the scale was originally developed using college-age student athletes (Short et al. 2005). The reliability for the CEQS subscales ranged from .81-.91 (Ability = .91, Effort = .87, Persistence = .81, Preparation = .87, Unity = .85). In sport psychology research, the scale has been used with intramural, university, semi-professional, and professional sport teams (MacLean & Sullivan, 2003; Martinez, Guillen & Feltz, 2011; Rad & Gharehgozli, 2013).

Coaching Efficacy (see Appendix C). The CES was designed by Feltz et al. (1999) to measure coaches' efficacy beliefs. The scale consists of 24 items that form four subscales of efficacy: Motivation, Game Strategy, Coaching Technique and Character Building. Participants self-report by responding to the stem: "how confident are you in your ability to..." on a 10-point Likert scale (0 = *not at all*; 9 = *very confident*), (Sample items are as follows: Motivation: "motivate your team; Game Strategy: "devise a successful strategy"; Coaching Technique: "teach the skills of your sport"; Character Building: "build team confidence"). Ratings for items representative of the specific subscales are averaged to produce a score ranging from 0 to 9 where higher values indicate higher efficacy beliefs. The reliability coefficients for the CES had Alphas for the full scale at .95 and the reliability for the subscales were .91 for motivation, .88 for game strategy, .89 for technique and .88 for character building (Feltz et al., 1999). These values show acceptable internal consistency (Nunnally & Berstein, 1994).

The stem for the CES was modified in this study to focus on athletes perceptions. More specifically, athletes were asked: "Please rate how confident you are in your coaches capabilities to do the following..." Modifications similar to this one have been made by other researchers (Kavussanu et al., 2008; Short & Short, 2004).

Athletes' perception of their coaches' overall confidence (see Appendix D). Participants were asked to rate their perception of their coaches' overall confidence on a 3 point scale (1= *under confident;* 2 = *just right in confidence;* 3 = *over confident*).

Results of the Past Ten Games (Appendix E). Athletes' were asked to indicate the results of their past ten games (3 = win*;* 2 = tie, 1 = loss). Scores were

added and those between the range (10-20) were classified as a losing team, whereas scores from (21-30) were classed as a winning team.

Procedure

Permission to perform the study was granted by the Institutional Review Board (IRB Approval # IRB-201511-144). The head coaches of the teams were informed of the details of the study by email and were asked to forward the link to the survey to the student-athletes. Student-athletes completed the survey online using Qualtrics software.

Once participants accessed the online site, the first page informed them that continuing with the research study by answering the questionnaires implied their informed consent. Then the survey was presented. Once athletes had completed the survey, they were thanked for their participation.

Analyses

Correlations were used to look at the relationship among athletes' perceptions of their coaches' confidence and collective efficacy. Analysis of variance was conducted between athletes' perception of their coaches' confidence (under, "just right", over) and the CEQS and CES subscales. Further analyses between the scores of the two groups were ran using a post-hoc Tukey HSD. A second analysis of variance was conducted to determine differences on the CEQS and CES subscales according to winning or losing teams.

CHAPTER III

RESULTS

Before running the analyses, all data were examined for any missing variables or outliers. A number of participants hadn't completed a number of questions so were immediately cut from the study due to the missing data. Moreover, values that were either very high or very low were compared against other responses to determine if they could be classified as outliers. Abnormal values and responses were eliminated from the study.

The reliability of the CES and the CEQS was examined using Cronbach's Alpha. The Alpha coefficients ranged from .89-.95 for the CES subscales (Motivation = .95, Strategy = .94, Character Building = .89, Coaching Technique = .94) and was .98 for the total CES. It must be noted that one of the 24 items was not included on the CES (i.e., "understand competitive strategies") due to human error, so the CES was comprised of only 23 items in the present study. The reliability coefficients for the CES matched up with previous research (Chase et al., 2005; Myers et al., 2005). The reliability coefficients for the CEQS ranged from .86-.94 (Ability = .94, Effort = .88, Persistence = .86, Preparation = .90; Unity= .92) and the Alpha for the full scale was .97. These values are also in line with previous research (Short et al., 2005). Overall, the reliability coefficients for the CES and CEQS showed acceptable internal consistency as they were above the minimum .70 threshold proposed by Nunnally and Bernstein (1994).

Descriptive Statistics

The descriptive statistics can be found in Tables 1 and 2. Results for the CEQS and CES showed that participants were confident in their coaches and their team. Scores for the CEQS were above 7.00 which shows that athletes were confident in their team's capabilities. Additionally, scores for the subscales on the CES were above 7.00 indicating that athletes were confident in their coach.

Table 1. Means and Standard Deviation for the CEQS and CES.

Variables	Mean	SD
CEQS		
Ability	7.54	1.80
Effort	7.69	1.65
Persistence	7.50	1.70
Preparation	7.62	1.67
Unity	7.23	1.94
Total	7.54	1.60
CES		
Motivation	7.32	2.07
Strategy	7.49	2.09
Technique	7.36	2.11
CharBuild	7.58	2.11
Total	7.43	2.04

Correlations (see Table 2) computed among the subscales of the CES were statistically significant and large in size, ranging from .88 to .96. Correlations among the subscales for the CEQS were also statistically significant and large in size ranging from .68 to .88. All correlations among the CES and CEQS subscales were statistically significant. The range of the correlations between the CES and CEQS subscales was .49-.69. The highest correlations were between strategy (CES) and preparation (CEQS) = .69; motivation (CES) and preparation (CEQS) = .68 and motivation (CES) and unity (CEQS) = .67. The lowest correlations were between

character building (CES) and ability (CEQS) = .49; technique (CES) and ability (CEQS) = .56 and motivation (CES) and ability (CEQS) = .55.

A 3-level (under, "just right", over confident) multivariate analysis of variance (MANOVA) was conducted using the CES and CEQS subscale scores as the dependent variables (see Appendix F). A significant multivariate effect emerged for the CES, Wilks' Lambda = .18, (F (4, 252) = 295.77, p < .000. A second MANOVA found a significant effect in the CEQS subscales Wilks' Lambda = .12, (F (5, 240) = 366.15, p < .000.

A one-way Analysis of Variance (ANOVA) was then used to investigate if there were any differences between athletes' perceptions of their confidence in their coaches' ability (CES) and their team's capabilities (CEQS), and their coaches' overall confidence (over/under vs "just right" in confidence). Results were statistically significant for all the subscales of the CES: Motivation, (F (2, 258) = 67.30, p = .00); Strategy, (F (2, 259) = 52.76, p = .00); Technique, (F (2, 259) = 68.04, p = .00); and Character Building, (F (2, 260) = 62.70, p = .00). Additionally, there were also significant differences on the CEQS subscales: Ability, (F (2, 258) = 14.72, p = .00); Effort, (F (2, 258) = 16.34, p = .00); Persistence, (F (2, 258) = 16.84, p = .00); Preparation, (F (2, 255) = 22.53, p = .00) and Unity, (F (2, 253) = 24.75, p = .00). Further analysis using a post-hoc Tukey HSD test showed athletes' who perceived their coach to be "just right" in confidence had higher ratings on all of the CES and CEQS subscales in comparison to the two other groups at the .05 level of significance.

A 2 level (winner's vs losers) multivariate of analysis (MANOVA) showed a significant effect using the subscales for the CES (see Appendix F): Wilks' Lambda = .069, (F (5, 254) = 860.15, p < .000. A second MANOVA found a significant effect

in the CEQS subscales (see Appendix F): Wilks' Lambda = .036, (F (4, 252) = 295.77, $p < .000$. A second Analysis of Variance (ANOVA) was used to investigate if there were any differences between athletes' perceptions of the coaches' confidence and team capabilities according to whether they were on winning or losing teams. Results revealed athletes who were part of a winning team, had higher confidence levels in their coaches' ability to lead their team to success (CES), and their team's capabilities (CEQS) than losing teams'. Significant differences were found for all CES subscales: Motivation, (F (1, 259) = 17.71, p = .00); Strategy, (F (1, 261) = 25.88, p = .00); Technique, (F (1, 260) = 16.08, p = .00); and Character Building, (F (1, 261) = 14.42, p = .00). Moreover, there were also differences for the CEQS subscales: Ability, (F (1, 260) = 83.62, p = .00); Effort, (F (1, 259) = 37.10, p = .00); Persistence, (F (1, 259) = 46.20, p = .00); Preparation, (F (1, 259) = 46.00, p = .00) and Unity, (F (1, 252) = 32.44, p = .00).

Table 2 Bivariate Correlations between Subscales of the CEQS and CES.

Subscale	CEQS Ability	CEQS Effort	CEQS Persist	CEQS Prep	CEQS Unity	CEQS Total	CES Motivat	CES Strategy	CES Tech	CES CharBui	CES Total
CEQS Ability	1.00										
CEQS Effort	.77	1.00									
CEQS Persistence	.77	.88	1.00								
CEQS Preparation	.78	.86	.84	1.00							
CEQS Unity	.68	.85	.79	.79	1.00						
CEQS Total	.87	.95	.94	.93	.90	1.00					
CES Motivation	.55	.64	.62	.68	.67	.69	1.00				
CES Strategy	.56	.64	.63	.69	.63	.69	.95	1.00			
CES Technique	.53	.61	.58	.67	.63	.66	.96	.95	1.00		
CES Character Building	.49	.61	.58	.63	.64	.65	.93	.88	.91	1.00	
CES Total	.55	.64	.62	.68	.66	.69	.99	.97	.98	.95	1.00

Note: CEQS = Collective Efficacy Questionnaire for Sports, CES = Coaching Efficacy Scale, Persist = Persistence, Prep = Preparation Motivat = Motivation, CharBui = Character Building, Tech = Coaching Technique. The CEQS is rated on a 11-point Likert scale and anchored at 1(*not at all confident*) to 10 (*very confident)*. The CES is rated on a 10-point Likert scale anchored at 1 (*not at all confident*) to 9 (*very confident)*.
All correlations are significant at $p = .00$

Table 3. Means and Standard Deviations for the CEQS and CES by Athletes' Perceptions of Coaches' Confidence and Winning or Losing Teams.

	Athletes' perceptions of coaches' confidence						Results of past 10 games			
Variables	Under		Just Right		Over		Winners		Losers	
CEQS	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Ability	6.16	2.32	7.87	1.63	6.66	1.82	8.26	1.19	6.44	2.02
Effort	6.80	2.46	8.02	1.49	6.76	1.56	8.16	1.34	6.96	1.85
Persistence	6.77	2.61	7.87	1.48	6.53	1.73	8.04	1.25	6.68	1.99
Preparation	6.75	2.44	7.99	1.43	6.48	1.67	8.13	1.22	6.77	1.98
Unity	6.68	2.26	7.67	1.70	5.79	2.04	7.77	1.66	6.43	2.09
Total	6.63	2.26	7.91	1.41	6.42	1.52	8.10	1.16	6.67	1.83
CES										
Motivation	5.43	2.98	8.01	1.48	5.21	1.98	7.74	1.83	6.66	2.29
Strategy	5.50	3.14	8.15	1.57	5.62	2.02	7.99	1.79	6.69	2.32
CharacterBuilding	5.95	2.91	8.28	1.47	5.50	2.18	7.98	1.89	6.98	2.33
Coaching Technique	5.39	3.01	8.06	1.57	5.20	1.84	7.77	1.94	6.72	2.24
Total	5.53	2.99	8.01	1.47	5.40	1.93	7.85	1.81	6.77	2.24

Note: CEQS = Collective Efficacy Questionnaire for Sports, CES = Coaching Efficacy in Sport, Under = Under Confident, Just Right = Just Right in Confidence, Over = Over Confident.

CHAPTER IV

DISCUSSION

In this study, collegiate soccer players' perceptions of their coaches' efficacy and their teams' efficacy were explored. Results showed that there is a relationship between athletes' perceptions of their coaches' confidence and collective efficacy. This finding supports previous research which has shown that the coach can have a considerable influence over the development of collective efficacy (Duda & Balageur, 2007; Fransen et al., 2012; Hampson & Jowett, 2014; Kozub & McDonnel, 2000).

Theoretically, the coach-athlete relationship is a source of collective efficacy (Short et al., 2005). Furthermore, an outcome of coaching efficacy is collective efficacy. If the coach is confident in his/her ability (source), the team will be confident in their capabilities (outcome) (Feltz et al., 1999). The results of this study have expanded on this connection by discovering that if athletes perceive their coach to be confident in their abilities to lead the team, athletes are also more confident in their team's capabilities. The correlations among the CES and CEQS subscales were able to support the connection, and showed that preparation from the CEQS and game strategy, technique and motivation from the CES were significantly correlated. The more confident athletes are in their coaches' ability to prepare the team, the more confident and motivated the team.

Results from additional analyses showed that when athletes were asked to rate how confident they believed their coach to be, athletes who felt their coach was "just right" in confidence scored higher on the CES and the CEQS than athletes who

believed their coach was either under or over confident. This finding is significant because it shows that if athletes perceive their coach to have confidence in his/her coaching ability, athletes' confidence in their team is high. Similarly, coaches who were perceived by their athletes as either under or over confident in their abilities, had lower levels of confidence in their team. Researchers have shown that athletes' perceptions of the coach-athlete relationship were found to significantly predict collective efficacy (Hampson & Jowett, 2014). The more personally supportive a coach was perceived to be by their athletes', the higher the collective efficacy levels of that group are likely to be (Hampson & Jowett, 2014).

Additionally, results from the study show that athletes who were part of a winning team scored higher on the CES and CEQS than athletes who were part of a losing team. This finding supports the theory of collective efficacy in sport which shows that past performance is a source of collective efficacy. Moreover, researchers have shown that athletes who are part of a winning team have reported higher levels of collective efficacy (Chase et al., 2003; Feltz & Lirgg, 1998), and perform better when collective efficacy beliefs have been high (Edmonds et al., 2009; Myers et al., 2004). The finding from the study supports previous research by emphasizing that past performance is postulated to be among the most powerful sources of collective efficacy (Bandura, 1997).

Athletes participating in the study reported positive perceptions of their coaches' efficacy. Means of the subscale to the coaching efficacy scale were above the midpoint of the scale. These values are consistent with previous research where athletes were asked to rate their perception of their coaches' efficacy or coaching effectiveness using the CES (Boardley et al., 2008; Short & Short, 2004). Additionally, athletes also scored above the midpoint of the collective efficacy scale

which shows that they were also confident in their team's capabilities. Researchers have shown that athletes have scored either in lieu with the midpoint, or considerably above it (Maclean & Sullivan, 2003; Myers, et al., 2004).

The results from this study have several practical implications for coaches. First, coaches are now able to understand that athletes who believe their coach is confident in their ability to lead the team, have higher confidence in their team. Second, the study was able to show that when athletes felt confident in their coaches ability to develop game strategies, they felt more confident in their team's preparation. Moreover, when athletes were confident in their coaches' ability to motivate the team, they were more confident in their team's unity and effort. Thus, coaches' can now understand that coaching dimensions relate to team confidence. If coaches want to get the best effort out of their team, they are now able to understand that they need to have effective motivational coaching techniques.

It is unfortunate, in a sense, that all the correlations among the CES and CEQS subscales were statistically significant. Because they were, we are unable to offer any specific recommendations for coaches, like if athletes have confidence in your ability to plan game strategies, then they will be more confident in their teams preparation. Or, if athletes are confident in your ability to effect psychological state (i.e., motivation subscales of the CES) then they will be more prepared. Testing out more specific relationships could be a goal for researchers in this area.

The theory of collective efficacy posits athletes will be more committed, perform better, exert more effort and will persist when their confidence in their team is high. Thus, it is important for coaches to recognize and understand that they have a significant effect on team confidence and should look to develop their skills to achieve the levels of coaching efficacy that athletes perceive to be "just right." To

achieve this perceived confidence, coaches can expose themselves to coach education programs which could help to gain greater experiences in the sport, to learn how to form positive coach-athlete relationships and to understand the most effective coaching techniques. Research on coach education programs have been proven to have a significant relationship with coaching efficacy (Malete & Feltz, 2000; Sullivan et al., 2012).

In conclusion, the current study appears to be the first research investigation examining the relationship between athletes' perceptions of their coaches' confidence in his/her ability to lead their team to success and athletes' collective efficacy beliefs. It would be beneficial for researchers to assess what outcomes of coaching efficacy effect athletes' perceptions of their coaches' confidence in their ability to lead the team to success, and other additional sources athletes use to determine their coaches confidence. More specifically, understanding coaching behaviours on collective efficacy could inform coaches on how best to interact with their team. Furthermore, understanding the relationship-inferred self-efficacy (RISE) between the coach and the athlete could further explain how athletes perceive their coaches confidence. Additionally, it would be interesting to understand if athletes are more confident in their coach if the coach has more coaching experience/coaching education than a coach of less coaching experience/coaching credentials.

APPENDICES

APPENDIX A

BACKGROUND INFORMATION

1. What Gender are you?
   Male
   Female

2. How old are you?

3. What position do you play?

   Goalkeeper
   Defender
   Midfielder
   Striker

4. What country do you currently play in?

5. What conference do you play in?

6. What college team do you currently play for?

7. How many people are on your team?

8. How long have you played under your current coach?

APPENDIX B

COLLECTIVE EFFICACY QUESTIONNAIRE FOR SPORTS: (SHORT ET AL. 2005)

Please rate your level of confidence in your teams capabilities to do the following (0 not at all confident; 10 very confident)

		(**0** not at all confident; **10** extremely confident)										
1.	Outplay the opposing team	0	1	2	3	4	5	6	7	8	9	10
2.	Resolve conflicts	0	1	2	3	4	5	6	7	8	9	10
3.	Perform under pressure	0	1	2	3	4	5	6	7	8	9	10
4.	Be ready	0	1	2	3	4	5	6	7	8	9	10
5.	Show more ability than the other team	0	1	2	3	4	5	6	7	8	9	10
6.	Be united	0	1	2	3	4	5	6	7	8	9	10
7.	Persist when obstacles are present	0	1	2	3	4	5	6	7	8	9	10
8.	Demonstrate a strong work ethic	0	1	2	3	4	5	6	7	8	9	10
9.	Stay in the game when it seems like your team isn't likely to get any breaks.	0	1	2	3	4	5	6	7	8	9	10
10.	Play to its capabilities	0	1	2	3	4	5	6	7	8	9	10
11.	Play well without your best player	0	1	2	3	4	5	6	7	8	9	10
12.	Mentally prepare for competition	0	1	2	3	4	5	6	7	8	9	10
13.	Keep a positive attitude	0	1	2	3	4	5	6	7	8	9	10
14.	Play more skilfully than your opponent	0	1	2	3	4	5	6	7	8	9	10
15.	Perform better than the opposing team	0	1	2	3	4	5	6	7	8	9	10
16.	Show enthusiasm	0	1	2	3	4	5	6	7	8	9	10
17.	Overcome distractions	0	1	2	3	4	5	6	7	8	9	10
18.	Physically prepare for competition	0	1	2	3	4	5	6	7	8	9	10
19.	Devise a successful strategy	0	1	2	3	4	5	6	7	8	9	10
20.	Maintain effective communication	0	1	2	3	4	5	6	7	8	9	10

Factors: Ability: Items 1, 5, 14, 15. Effort: Items 8,10,16,17. Persistence: Items 3, 7,9,11. Preparation: Items 4,12,18,19. Unity: Items 2, 6, 13, 20.

Appendix C

Coaching Efficacy Scale for Sport: (Feltz et al. 1999)

Please rate how confident you are in your coaches ability to do the following (0 not at all confident; 9 very confident)

	not at all confident									very confident)
1. Maintain confidence in your team	0	1	2	3	4	5	6	7	8	9
2. Recognize opposing team's strength during competition	0	1	2	3	4	5	6	7	8	9
3. Mentally prepare your team for game/meet strategies	0	1	2	3	4	5	6	7	8	9
4. Understand competitive strategies	0	1	2	3	4	5	6	7	8	9
5. Instil an attitude of good moral character	0	1	2	3	4	5	6	7	8	9
6. Build the self-esteem of your team	0	1	2	3	4	5	6	7	8	9
7. Demonstrate the skills of your sport	0	1	2	3	4	5	6	7	8	9
8. Adapt to different game/meet situations	0	1	2	3	4	5	6	7	8	9
9. Recognize opposing team's weaknesses during competition	0	1	2	3	4	5	6	7	8	9
10. Motivates your team	0	1	2	3	4	5	6	7	8	9
11. Make critical decisions during competition	0	1	2	3	4	5	6	7	8	9
12. Build a team cohesion	0	1	2	3	4	5	6	7	8	9
13. Instil an attitude of fair play amongst your team	0	1	2	3	4	5	6	7	8	9
14. Coach athletes individually on their technique	0	1	2	3	4	5	6	7	8	9
15. Build self-confidence in your team										
16. Develop athletes' abilities	0	1	2	3	4	5	6	7	8	9
17. Maximize your team's strengths during competition	0	1	2	3	4	5	6	7	8	9
18. Recognize talent in your team	0	1	2	3	4	5	6	7	8	9
19. Promote good sportsmanship	0	1	2	3	4	5	6	7	8	9
20. Being able to detect your skill errors	0	1	2	3	4	5	6	7	8	9
21. Adjust your game/meet strategy to fit your team's talent	0	1	2	3	4	5	6	7	8	9
22. Teach the skills of your sport										
23. Build your teams confidence	0	1	2	3	4	5	6	7	8	9
24. Instil an attitude of respect for others	0	1	2	3	4	5	6	7	8	9

Factors: Motivation: Items 1, 3, 6, 10, 12, 15, 23. Strategy: Items 2,4,8,9,11,17,21. Technique Items: 7, 14, 16,18,20,22. Character Building Items: 5,13,19,24.

APPENDIX D

ATHLETE'S PERCEPTION OF THEIR COACH'S OVERALL CONFIDENCE

Please rate your overall perception of your coach's confidence:

1. My coach is under confident. They don't think they are as good as they actually are

2. My coach is just right in confidence. His/her ability matches their confidence level

3. My coach is overconfident. My coach thinks they are better than they actually are

APPENDIX E

RESULTS OF THE PAST TEN GAMES

Please state the results of your team's last ten games:

	Win	Tie	Loss
Game 1 (Most Recent)			
Game 2			
Game 3			
Game 4			
Game 5			
Game 6			
Game 7			
Game 8			
Game 9			
Game 10			

APPENDIX F

MEAN SCORE BAR CHARTS

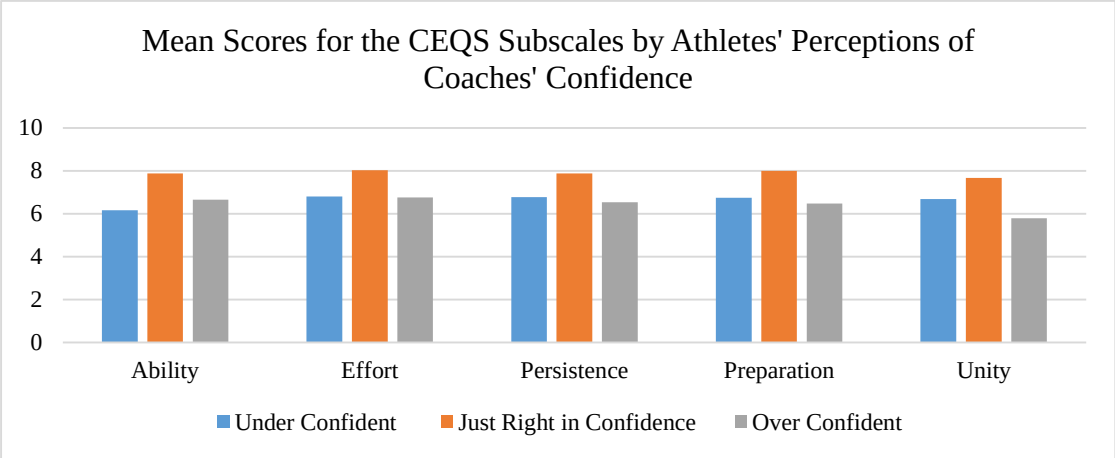

Figure 3: Mean Scores for the CEQS Subscales by Athletes' Perceptions of Coaches' Confidence.

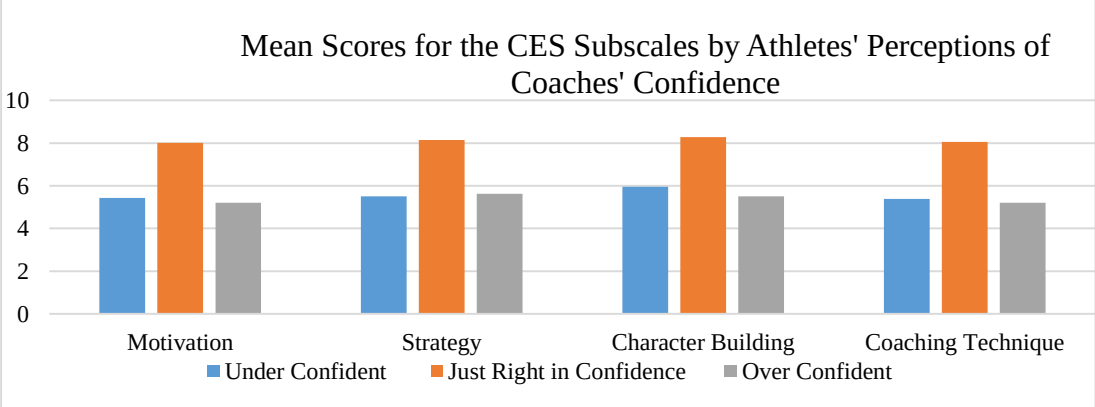

Figure 4: Mean Scores for the CES Subscales by Athletes' Perceptions of Coaches' Confidence.

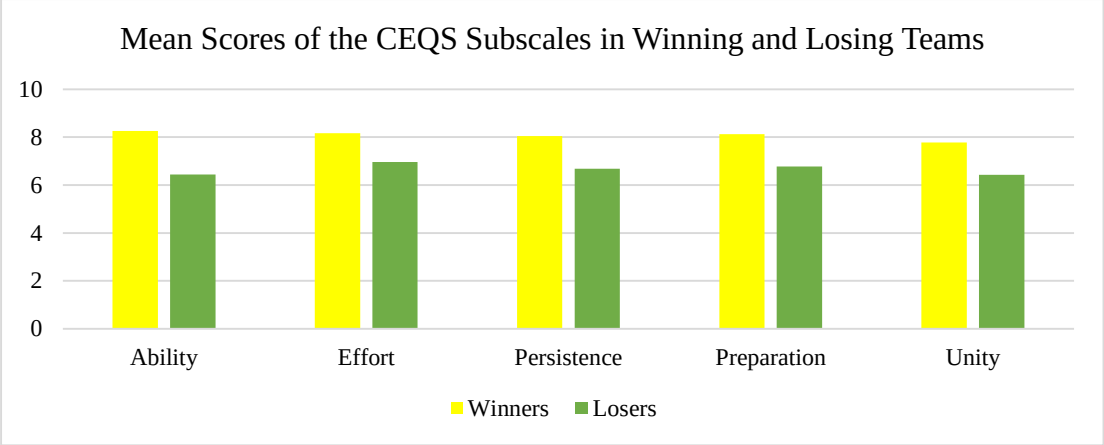

Figure 5: Mean Scores for the CEQS Subscales in Winning and Losing Teams.

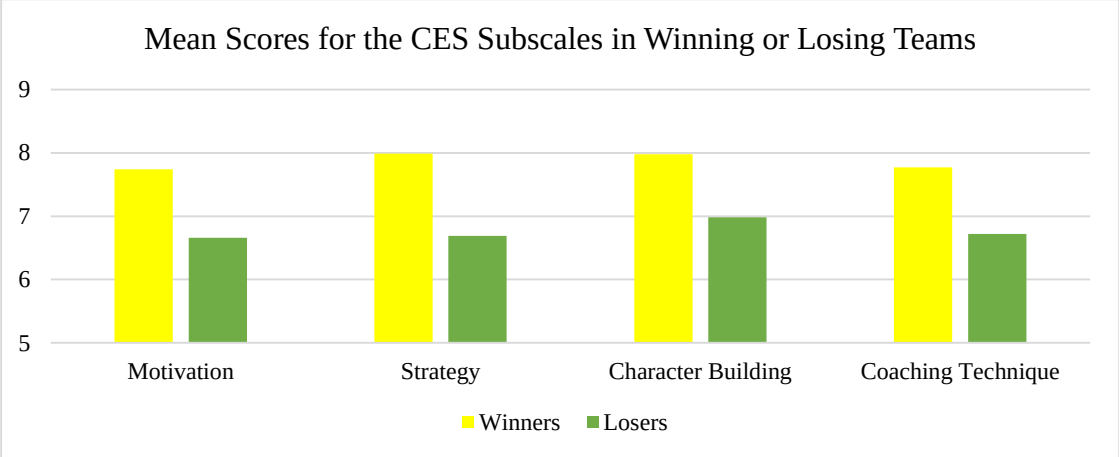

Figure 6: Mean Scores for the CES Subscales in Winning and Losing Teams.

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