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The Impact of the Gender of the Coach on the Type of Motivational Climate that is Established on a College Athletics Team

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THE IMPACT OF THE GENDER OF THE COACH ON THE TYPE OF MOTIVATIONAL CLIMATE THAT IS ESTABLISHED ON A COLLEGE ATHLETICS TEAM

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ABSTRACT

The objective of this study was to investigate the connection between the gender of the coach and the perceived motivational climate that is established on a college sports team. The Perceived Motivational Climate in Sport Questionnaire (PMCSQ-2) was completed by eighty-eight student athletes to assess their perceptions of the motivational climate that is established on a college sports team. The study further investigated the influence of the gender of the athlete, as well as the athlete's preference for either an Ego-oriented or Task-oriented motivational climate. No statistically significant correlation was found between the gender of the coach, the gender of the athlete, and their preference for either a Task or Ego involved motivational climate. This study did find that student-athletes showed a preference towards a Task-oriented motivational climate.

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LIST OF SYMBOLS AND ABBREVATIONS

α   Cronbach's Alpha

CFA   Confirmatory Factor Analysis

df   Degrees of Freedom

eta (η)   Measure of effect size

et al   and others

F   Ratio of two variances

H   Hypothesis

IRB   Institutional Review Board

MANOVA   Multivariate analysis of variance

n   Sample size

NCAA   National Collegiate Athletic Association

p   Calculated probability

PMSCQ-2   Perceived Motivational Climate in Sport Questionnaire-2

SD   Standard Deviation

t   Test score which compares two means

CHAPTER 1

INTRODUCTION

The purpose of individual engagement in sport may differ for various

reasons, many of the main goals of sport participation are to enhance an athlete's

sense of competence, satisfaction, long-term motivation, and skill (Newton, Duda

& Yin, 2000). A collegiate coach, in turn, provides student-athletes with quality

training to develop these skills as a means of achieving improved sport

performance. During both training and competitive scenarios, the manner in

which a collegiate coach delivers roles and responsibilities to their student-

athletes influences the overall culture of the sporting environment and

simultaneously plays a significant role in the performance and psychological well-

being of the student-athletes (Cruz & Kim, 2017).

The aforementioned sporting environment created by the coach, as

proposed by the goal perspective theory of Maher & Nichols (1980), consists of

two major goal states that define the motivation individual athletes may have.

These states are Task-oriented motivation, in which a student-athlete experiences

success based on improved performance, and Ego-oriented motivation in which a

student-athlete and coach identifies success based on performing well in

competition. The sporting environment chosen by a given coach (i.e., Task- or

Ego-oriented) thus varies on an individual basis (Walling, Duda & Chi, 1993).

Similarly, because individual student-athletes may prefer either a Task- or

Ego-centric coaching environment, the coach should arguably modify his or her

leadership style to meet an individual athlete's coaching needs, as is exemplified by supporting a motivational climate that better befits the given student-athlete's preferences. In other words, the way the coach chooses to interact with student-athletes, as embodied by either immense competitiveness (i.e., Ego-involvement) or a tendency towards individual improvement and satisfaction (i.e., Task-involvement), establishes the motivational climate on the team, as well as the interpersonal climate or relationship between the coach and the student-athlete.

The gender of the coach has an influence on the interaction between the coach and student-athlete (Knopper, 1987), and is one of the primary factors responsible for establishing the type of motivational environment. Most leadership roles and authority figures within the National Collegiate Athletic Association (NCAA), the primary regulatory figure in charge of demarcation between intercollegiate athletes and professional sports among institutions in the United States (Rosenthal, 2008), remain men, even though female student-athlete participation constitutes around 43% of the total NCAA student-athlete population (Shuman & Appleby, 2016). This discrepancy is even more blatant when considering that male coaches direct 95% of all men's NCAA athletic programs and 59% of all women's NCAA athletic programs, while female coaches direct a mere 5% of all male NCAA athletic programs and a scant 40% of all female NCAA athletic programs (NCAA, 2018).

The main purpose of this study, therefore, was to examine how the gender of the coach affects the motivational climate that is established on an intercollegiate athletic team, with the expectation that the motivational climates

that female coaches establish differ from that of their male counterparts. This study also strives to investigate how student-athletes perceive the motivational climates established by their respective coaches, and if the gender of the student-athlete has an effect on the motivational climate that is created by the coach.

Conceptual and Operational Definitions

In this section, the main concepts and terms are defined as they pertain to this research thesis. The following terms will be defined, namely that of Motivational Climate, Team, Student-Athletes and Coach.

Motivational Climate

Motivational climate can be defined as the psychological atmosphere in which student-athletes are training and performing (Miulli et al., 2011). The motivational climate was measured by PMSQ-2 questionnaire, which was developed by Duda & Balaguer, 2007. Although definitions of the various goals that make up a motivational climate may vary (Ommundsen, Foberts & Kavussanu, 1998), this study will only use Nicholls's (1984) achievement goal theory terminology which categorizes these goals as either Task-oriented or Ego-oriented. These goals can exist in conjunction with each other, or separately. A Task-oriented motivational climate is a climate in which the student-athlete perceives an emphasis from the coach on self-improvement, learning, cooperation and individual effort. Individual success, from the perspective of this type of motivational climate, is subjective to individual athletes, each of which define success based on intrinsic standards (Ames & Archer, 1988; Duda et al. 2007; Reinboth & Duda, 2005).

The second motivational climate scheme, known as Ego-involvement, reveres competition and success as the main objective in sport participation. This excessive competitiveness is accompanied by punishment for mistakes, rivalry among teammates, along with social comparison and favoritism by the coach (Miulli & Nordin-Bates, 2011). The perceived motivational climate has a direct effect on the level of self-confidence and performance of student-athletes, as a perceived motivational climate generated by a coach can predispose individual athletes to adopt a specific motivational mentality, thereby encouraging either adaptive or maladaptive achievement strategies such as team work or extreme competitiveness, respectively (Morgan, 2002; Ibrahim, Jaafar & Kassim, 2016). In particular, a Task-involving motivational climate tends to be preferred by student-athletes, as this motivational climate has been found to raise self-confidence, improve concentration and enhance the sport experience studies (Viciana, Cervello & Ramirez-Lechuga, 2007; Papaioannou & Kouli, 2008).

Team

For the purpose of this study the concept of team as proposed by Carron & Chelladurai, (1981) will be used. Their research uses cohesion to describe the concept of team and states that it is a multidimensional construct which consists of two factors, namely that of individual to group, and group to a unit cohesiveness. The former is composed of a sense of belonging, value, membership and enjoyment. The latter is composed of teamwork and closeness. When the term "team" is used, it includes the reference to "team culture" as well.

There is a distinction between individual sports such as Track and Field and Cross Country, which also has a team element, and other sports such as soccer and football. The distinction can be found in the athlete's performance. In an individual sport such as Track and Field and Cross Country the individual performance counts towards the overall placement of the team in a competition and the athlete performs on his/her own. In a traditional team sport, the team competes as a group simultaneously and individual performance is affected directly by the other team members.

 A team can also be described as a type of group with special characteristics that has a "collective identity, a sense of shared purpose, structured patterns of interaction, structured methods of communication, personal and task interdependence, and interpersonal attraction" (Carron, 1988; Hodge, 1995). According to Andrews (2000), a team is a collection of people that work together cohesively to achieve an agreed, desired result, goal or outcome in a way that will maximize the skills and talents of all the members without compromising their values or ethics.

Within a team, the personality of the team constitutes the team's overall perception of its capabilities and potentials (Tasa, Sears & Schat, 2010), and can be described as the way athletes behave. The team's personality forms the team culture, of which can be defined as the underlying and often unrecognized beliefs, rules, and attitudes about sports and competition among team members that attempt to maximize the team's ability to achieve success (Schroeder, 2010). The team culture determines if the focus of the team will be on mastery, fun, and/or

winning, and if individual accomplishment or team success is promoted among team members. The team culture is grounded on a sense of mission and shared goals such as winning a championship title (Taylor, 2013).

The culture is furthermore built around a pattern of shared assumptions, as is evident in its system of heroes, language, action, shared values, rituals, symbols, beliefs and team myths (McConnell, 2000). The coach plays an active and determined role in developing the culture, atmosphere, and behavior within the team (Hanson, 2014).

Student-Athletes

The term "student-athlete" refers to an individual who engages in, is eligible to engage in, or may be eligible in the future to engage in any intercollegiate sport. A student-athlete at an NCAA member institution is defined as a student who is listed as a team member who practices with the varsity team and receives coaching from at least one varsity coach; a student-athlete, furthermore, may be receiving athletically related student aid from the NCAA member institution (Irick, 2015). The term, "student-athlete," is also used to denote that the given athlete is foremost a student and not an athlete, and that the athlete is not an employee at the NCAA member university (McCormick & McCormick, 2006).

For this study, a student-athlete will be defined as a college student who participates in an NCAA sponsored sport. The athlete must currently be currently on a college team to be classified as a student-athlete. Student-athletes who satisfy one or more of the aforementioned criteria but currently do not participate in

scheduled contest, whether for medical reasons or to maintain NCAA eligibility, shall also be considered eligible student-athletes for this study. An individual who is permanently ineligible to participate in an NCAA intercollegiate sport shall not constitute a student-athlete.

Coach

According to Cruickshank & Collins, (2015), a coach can be defined as a person who develops and optimizes the performance of individuals and teams by organizing training sessions and schedules and supporting the development and refinement of "physical, technical, and tactical" skills for competition. Different conceptual coaching models focusing on leadership, expertise, coach-athlete relationships, motivation and education have been delineated, but no cohesive definition of effective coaching which includes the process, knowledge and behaviors involved in the development of athletes exists (Cote & Wade, 2009).

However, the following three components of coaching can be used to define a coach, namely that of knowledge, outcomes and coaching contexts. Coaches are distinguished by having extensive knowledge about their respective field of expertise, of which includes both declarative and procedural knowledge (Cote et al., 2009). The success of a coach can be measured by either the win/lose record or the positive psychological responses on the part of the athletes, which circumscribes high self-esteem, intrinsic motivation or high level of sport enjoyment and satisfaction (Cote et al., 2009). The coaching context is the unique setting in which coaches try to improve athlete outcomes. For this study, a coach

must currently be leading an NCAA Division I, II, or III-member institution athletic team.

Purpose of the Study

The main purpose of this study is to assess how the gender of the coach affects the motivational climate established on an NCAA member institution athletic team. The researcher posits the motivational climate that female coaches establish is different than that of male coaches. An additional purpose of the study is to assess how student-athletes perceive the motivational climate established by their coaches, and if the gender of the student-athlete has an effect on the preference for a particular motivational climate that is created by the coach.

Importance of the Study

Previous research suggests that one of the most important variables that can influence the performance of a student-athlete is the behavior of the coach, as the coach plays a central role in establishing the motivational climate of the team (Bebetsos, Filippou & Bebetsos, 2017). The gender of the coach also has an effect on the type of motivational climate that is established. The gender of the student-athlete also affects the perceived motivational climate that is experienced by the student-athlete, as the student's perceptions of the coach's behavior are vital in determining how coaches influence their student-athletes along with how the given coach establishes the sporting environment (Nicholls et al., 2016).

Research has shown that there is a difference in coaching styles between male and female coaches. According to Theberge (1993) this difference in style can be attributed to the motivations and reasons behind why women and men

participate in sport. Theberge (1993), found that men primarily see sport as a platform to develop their masculine identity. Sport, therefore, is considered very important in men's conception of the development of power, yet, at the same time, women have been denied performing sport as a means to experience power and the sense of physical accomplishment (Theberge, 1993). This difference in power and coaching styles might also explain why women coaches have a more difficult time than male coaches gaining the respect they are due, even after repeated success (Dias, 2011).

Women coaches tend to see coaching not as power, but rather as influence and empowerment, which is in direct opposition of the dominant ideology of sport that stresses production and performance (Theberge, 1990). If coaches are aware of the effect their behavior has on the motivational climate that is established and how it affects student-athletes and performances, coaches can amend their behavior to promote the healthiest possible motivational climate, of which is expected to improve the performance of student-athletes.

Hypotheses

1. H_1: There is a significant difference in motivational climate of a team based upon the gender of the coach.

2. H_2: There is a significant difference in the perceived motivational climate that is established by the coach based upon the gender of the student-athlete.

3. H_3: There is a significant difference between student-athletes' preferences for a Task-involving motivational climate than an Ego-involving climate.

4. H_4: There is a significant relationship between coach's gender and the motivational climate of the team.

Delimitations

This study was delimited by the use of only one instrument, the Perceived Motivational Climate in Sport Questionnaire – 2 (PMCSQ-2), to measure the motivational culture of the team. This study was also delimited to only NCAA student-athletes.

Limitations

The availability of female coaches who coach male student-athletes are limited, which limits the number of participants in the study. This study was confined to student-athletes participating in NCAA Division I, II, or III sports under NCAA member institutions or universities in the United States. Only current NCAA student-athletes were considered for this study. Due to the data collection methodology employed the results of this study can only be applied to the participants and not the general student-athlete population.

Although the anonymity of participants is protected, student-athletes may still felt that their participation in the study might have influenced their position on the team. The study was dependent on the good will of the coaches to pass on the questionnaire to their student-athletes and let them be part of the study, of which it was expected to be conducted by student-athletes in a private setting without the physical presence of their given coach.

Assumptions

It is assumed that student-athletes participated and answered all questions on the questionnaire honestly and without fear of retaliation or intimidation by their coaches. The coaches who recruited student-athletes for surveys, are effective coaches for the team. It is also assumed that the instrument used, measured the motivational climate for NCAA intercollegiate athletic teams. The study relied on the assumption that the coaches would pass on the questionnaire to their student-athletes and let them be part of the study.

CHAPTER 2

REVIEW OF LITERATURE

Motivational climate on college sport teams depends on the reason why both athletes and coaches are participating in sport at this level. The reason why athletes and coaches participate at this level of sport influences the type of motivational climate that is established and nurtured on a college sports team. This is an important reason why there has to be a distinction between an Ego- and a Task-involving climate and how gender influences this, as research has shown that men and women get involved in sport for different reasons (Theberge, 1993).

Existing research shows that the gender of the coach does have an influence on the type of motivational climate that is established. This intrinsic motivational climate that coaches create also directly reflects the student-athletes' perceptions on team commitment, which is complementary to their interaction with their coach (Olympio, Jowett & Duda, 2008).

Types of motivational climate

The motivational climate that is established by the coach can be either Task- or Ego-oriented (Balaguer, Duda & Crespo, 1999). Both orientations relate in different ways to define and judge success and competence. A Task-involved climate is more self-referenced and emphasizes task mastery, exertion of effort and the development of skills or knowledge of the activity (Balaguer et al., 1999). In an Ego-involved, or goal orientation climate, individuals are more concerned with demonstrating a high ability and only see themselves as successful when

they perform better than others (Balaguer et al., 1999). Other research conducted

by Olympio et al., (2006) found that a Task-involving climate, where co-operative

learning and effort, along with self-improvement are emphasized, were associated

with athletes' perceptions of feeling close, committed, and interacting in a

complementary fashion with their coach.

Task-involving vs Ego-involving

Athletes who perceived their coaches to be more Task-involving also

perceived that they had improved with regards to tactical, technical and

psychological facets of their sport and were also significantly and positively

associated with satisfaction of players with their coach, level of play and match

results (Balaguer et al., 1999). Similarly, Alfermann & Lee, (2005) found that

athletes improved over time when they receive greater attention from their coach

and that positive feedback contributed to skill development. Additionally,

research by Balaguer et al., (2002) found that a positive relationship exists

between better performance and the view of the coach and a Task-involving

climate. Furthermore, a study by Pensegaard & Roberts (2001) similarly

concluded that athletes preferred a Task-oriented environment above that of an

Ego-oriented environment. When athletes perceive their environment to be more

Ego-oriented, there were a greater dissatisfaction with the coach as well as

malcontent with the level of their play and performance (Balaguer et al., 1999).

An Ego-oriented motivational climate involves punishment for mistakes,

intra-team member rivalry, along with athletes' perceptions of unequal

recognition. An ego-based climate also involves the view from student-athletes

that the relationship with their respective coach lacks closeness, commitment and complementarity (Olympio et al., 2008). It was also found that athletes believe that their relationships with their coach, as well as the relationship the coach has with them, correspond to their views of how the coach creates either a Task- or Ego-involving atmosphere on his or her team (Olympio et al., 2008). A study by Nicholls, Morley & Perry (2016) found that there is a positive correlation between supportive coaching behaviors and a Task-involving climate, along with a positive path between Task-involving climate and mental toughness. The way coaches behave along with the climate they create directly influence the well-being of the given athlete; a Task-involved climate, correspondingly, creates less anxiety than those in an Ego-involved climate. Those in an Ego-involved climate tend to experience more stress, shame, self-consciousness and greater cortisol responses than those in a Task-involved group (Nicholls et al., 2016).

Gender of the coach

The gender of the coach plays a significant role in the type of motivational climate that is established. Research by Dias (2011) illustrates that female coaches prefer a more caring and supportive approach and are generally not concerned with performance on the playing field. In addition, female coaches also tend to take a keen interest in the life of athletes off the track, which has a positive impact on the coach-athlete relationship. Female coaches are more willing to learn and work with the athlete and are not as authoritarian as their male counterparts (Dias, 2011). Likewise, Revesz, Biro & Csaki et al., (2014) suggested female coaches value effort and improvement more than male coaches, and that these female

coaches also value the mastery of goals above performance goals. Female coaches also have the ability to get athletes more emotionally involved in their training and competition, and gravitate towards an improved communication system involving a more flexible, open, and individualized manner of coaching (Dias, 2011).

Gender of the athlete

The gender of the student-athlete also plays a role in how the motivational climate, primarily established by the coach, is perceived. Research by Bebetsos et al., (2017) showed that the perceived behavior of the coach is directly related to the athletes' perceptions according to the gender, type of sport, and weekly practice time that they are involved in. The gender of the athlete thus also plays a major role in the perception of the behavior and motivational climate that is established by the coach. Research by aforementioned authors also concluded that male athletes preferred an Ego-involving motivational climate to a Task-involving climate, and that female athletes prefer a Task-oriented climate to an Ego-involving one (Revesz et al., 2014).

Research by Navarre (2011) suggested that male athletes are more performance-oriented and prefer a centralized leadership style; receiving of both personal and harsh criticism also appears to be preferred by male athletes, which is not the case with female athletes. Research also suggests that male athletes are more conducive to winning a competition than their female counterparts. Furthermore, although both genders responded positively to mastery climates, women reacted more negatively towards Ego-climates (Breiger, Cumming &

Smith et al., 2015). This has implications for female coaches coaching male athletes and gaining their respect and loyalty. According to Navarre (2011), when males coach females, they should be aware that women are affected negatively by the excessive obsession of the coach by being competitive.

A study by Sherman, Fuller & Speed, (2000) indicated that female athletes had a bigger preference for democratic behavior and positive feedback than male athletes. Although the difference was only marginal, it remains significant, as the study was done among male athletes being coached by male coaches, along with female athletes being coached by females. The study also illustrated that those athletes, in general, do not prefer an autocratic coach, and can perform better with greater personal freedom and lack of fear of punishment from their coach. The view of the athletes, both male and female, was that an authoritarian coaching style may not be conducive to assisting athletic performance (Sherman et al., 2000).

Amorose & Horn, (2000) found that intrinsic motivation is related to perceived coaching behaviors, and that athletes with a higher level of intrinsic motivation perceived coaches to exhibit a more democratic leadership style by providing more positive and informational-based feedback. The coach needs to be aware of the preferences of athletes, as these have a profound influence on the coach/ student-athlete relationship and performance.

Both the coach and teammate autonomy-supportive climates have a direct relationship with fulfilling the needs of student-athletes, as well as pro-social behavior (Hodge & Gucciard, 2015). There is a mutual and bi-directional

influence of the behavior of the coach and the student-athlete. The actual behavior of the coach is influenced by his or her personal characteristics such as age, gender, personality, ability, experience, as well as by the situational demands. The interaction between coach and student-athlete is also affected by the individual characteristics of each student-athlete, such as age, gender, personality, ability and experience of the individual (Sherman et al., 2000)

CHAPTER 3

METHOD

A cross-sectional quantitative study was conducted among mainly Track and Field and Cross-Country athletes from NCAA Division I schools in the United States. A MANOVA, *eta* and *t*-tests were done on the data to compare the variables and test the proposed hypotheses.

Procedures

Once the study and instrument was approved by the Coastal Carolina University Institutional Review Board (IRB), the survey instrument was posted on Survey Monkey. The link to the survey was emailed to selected male and female head coaches of NCAA member institutions in various states in the United States. The student-athletes of these selected coaches were asked to complete the survey online via the provided link and submit it themselves to the researcher. Student-athletes were also asked to forward the link to other student-athletes in their respective sport. The researcher compiled and maintained the data on a secure computer and password protected Survey Monkey.

Subjects

Information was collected from 88 respondents of which 3 student-athletes played golf, one field hockey and one tennis (Table 4). The rest of the group consisted of Track and Field and Cross-country athletes (n=83). Four groupings of subjects were sought for this study. These groupings were female student-athletes coached by male coaches (n=24, 27.2%), female student-athletes coached

by female coaches (n=34, 38.6%), male student-athletes coached by female

coaches (n=19, 21.6%), and male student-athletes coached by male coaches (n=6,

6.8%). One athlete failed to declare his/her gender. Since student-athletes were

difficult to access for research. The researcher used snowball sampling where

respondents were asked to pass on the survey to other student-athletes in Division

I schools. This excluded the use of the coach as intermediary.

Table 1: Demographic information of respondents of the study

Type of sport	*T&F XC*	*golf*	Field hockey	*Tennis*			
	83	*3*	*1*	*1*			
Groupings	Females coached by Males	Females coached by Females	Males coached by Females	Males coached by Males			
	24 (27%)	34(38.6%)	19(21.5%)	6(6.8%)			
Ethnicity	White	Other	Not declared				
	75	12	1				
Age	18	19	20	21	22	23	-
	15	20	17	19	5	6	1

Instrument

The Perceived Motivational Climate in Sport Questionnaire-2 (PMCSQ-2), is a 33 item, self-report instrument that was used to measure the players' perceptions of the motivational climate that was established by the coach. This instrument specifically contains two higher-order scales, Task-Involving and Ego-Involving (Newton et al., 2000). These high-order scales each have three subscales Cooperative Learning, Effort/Improvement, Important Role, Intra-team member rivalry, Unequal recognition and Punishment for mistakes.

Research by Newton et al., (2000) shows the oblique six-factor model and oblique hierarchical model provides a comparable fit to the data, as their research confirmed evidence for the concurrent validity of the instrument. Their research did show that one subscale, Intra-Team rivalry is psychometrically suspect but it appears to be a viable component of a larger ego-involving atmosphere.

Cronbach's alphas were calculated for both the second-order factors of each subscale. Both the Task-Involving ($\alpha = 0.88$) and Ego Involving ($\alpha = 0.87$) are internally consistent (Newton et al., 2000). Their research was confirmed by the Hungarian adaptation of the PMCSQ-2, which found that the instrument is adequate regarding the criteria of validity and reliability, and that the instrument, furthermore, can be used to measure student-athletes' perceived motivational climate efficiently (Revesz et al., 2014).

Confirmatory Factor Analysis (CFA) from this study however could not confirm the validity of the subscale of Effort/Improvement (Task-involving) and it was dropped from the measurement. This subscale was dropped as it measured

three different constructs and one of the questions was reverse scored. A reason why this construct did not measure correctly could be that the questionnaire was done at the end of the season and effort and improvement was not that important to the respondents at this particular time as most athletes were in post season. Another reason may be the turnover of coaching staff and impact of academic examinations at the end of the season.

The subscale of Intra-team member rivalry on the higher order scale of Ego was also dropped as the measurement was not found to be valid (Cronbach's Alpha = .596). A potential reason why this did not test valid might be the type of sport that respondents participate in, namely that of Track and Field and Cross Country, which is more individualized. Performance in Track and Field and Cross country can be objectively measured by times and distance and athletes do not compete directly against other team mates to play a certain position as in football and soccer. Another reason can be the timing of the questionnaire that was done post-season and student-athletes were not in a competitive zone. Therefore, only two subscales per higher order scale were used, namely that of Cooperative learning and Important role with Task, and Unequal recognition and Punishment for mistakes with Ego.

Data Analysis

Statistical analyses were performed in order to examine and process collected data. Methods of analysis included descriptive statistics, a procedure performed via examination of frequency distributions and cross tabulation as a means to summarize and increase understanding of collected samples, in addition

to a confirmatory factor analysis (CFA), a method to determine if the constructs

of the survey were consistent and if the variables measures represent the number

of constructs used.

Inferential statistics such as paired sample t-tests and multivariate analysis

of variance (MANOVA) tests were also utilized to establish relations found

within sample groups and to provide quantitative support for hypotheses H_1, H_2

and H_3. Performance of the MANOVA test (H_1) was performed to determine if

there was any significant difference between male and female coaches and male

and female athletes when comparing Task-cooperative learning, Task-importance

of role, Ego-unequal recognition, and Ego-punishment for mistakes. Paired t-tests

(H_3) were performed to measure the preference of the student-athletes for either

an Ego –oriented motivational climate or a Task-oriented motivational climate as

well as to compare the means of the sum average for Task-cooperative learning

and the sum average of Task Important role to the sum average of Ego-unequal

recognition and the sum average of Ego-punishment for mistakes. A t-Test (H_2)

was also performed to investigate if the gender of the athletes had a significant

influence on the type of preference for either an Ego-oriented motivational

climate or a Task-oriented motivational climate.

Since the gender variable is nominal data, nonparametric statistics were

used to determine if a relationship existed between coach's gender and

motivational climate. By utilizing *eta*, a nonparametric correlation statistic, the

subcomponents of the relationships of a Task (e.g. "Cooperative learning" and

"Important Role") and Ego-associated motivational climate (e.g. "Autocratic

behavior by coach" and "Unequal recognition and Punishment for mistakes") across the gender of the athlete and coach were measured (H_4). *Eta* (η) was also used to measure the relationship between student-athletes gender and the motivational climate.

CHAPTER 4

RESULTS

Table 2 provides the descriptive data for the MANOVA test. A MANOVA was used to examine the influence of the gender of the coach and the gender of the athlete on four variables – namely, Cooperative Learning (CL), Important Role (IR), Unequal Recognition (UR), and Punishment for Mistakes (PM) (Hypothesis[1]). Bivariate testing found the effect of gender of the coach and the gender of the athlete on these four variables, not to be significant ($F = 1.248, p > 0.05$).

Table 2: *Descriptive statistics based upon the four variable of motivational climate*

		Male			Female	
Motivation	**n**	**M**	**SD**	**n**	**M**	**SD**
Cooperative Learning	33	4.22	0.60	54	4.27	0.66
Important Role	33	4.17	0.78	54	4.10	0.68
Unequal Recognition	33	1.94	0.81	54	2.32	0.96
Punishment for Mistakes	33	1.66	0.60	54	1.98	0.93

Note: M= Mean, SD= Standard Deviation

Similarly, analysis of variance suggested no significant difference between the preference of athletes (F [4, 80] = 0.872, p = 0.484 > 0.05, Wilk's Λ = 0.958, partial η^2 = 0.042) and the preference of coaches (F [4, 80] = 1.248, p= 0.298 > 0.05, Wilk's Λ = 0.941, partial η^2 = 0.059) to a Task-involving motivational climate. The findings from this research study did not support either Hypothesis 1 or 2 (Table 3).

Table 3: *MANOVA: Significant effect of gender of coach on Motivational climate*

Motivation	F	df	p
Gender of the coach	1.25	4.00	0.3
Gender of the athlete	.87	4.00	0.48

* No statistically differences were found ($p > 0.05$).

Note: M= Mean, SD= Standard Deviation

A *t*-test were performed on the data to determine if the gender of the athlete (H$_2$) had any influence on their preference for either a Task- or Ego-oriented motivational climate. No significant differences were found between the gender of the athlete and their preference for a motivational climate consisting of Cooperative Learning (t = *-0.39, p > 0.05*), Important Role (*t = 0.32, p > 0.05*), Unequal Recognition (*t = 1.45, p > 0.05*), or Punishment for Mistakes (*t = 0.73, p >0.05*). Therefore, no statistically significant difference in the gender of the surveyed athletes' preference for either a Task-associated motivational climate (i.e., Cooperative Learning and Important Role) or an Ego-associated

motivational climate (i.e., Unequal Recognition and Punishment for Mistakes) were found (Table 4).

Table 4: *Independent t-tests between Student-Athlete Gender and Motivational Climate*

		Female			Male		
Motivation	*n*	*M*	SD	*n*	*M*	SD	*t* (2-tailed)*
Cooperative Learning	38	4.28	0.55	49	4.23	0.70	.70*
Important Role	38	4.10	0.67	49	4.15	0.75	.75*
Unequal Recognition	38	2.01	0.84	49	2.30	0.97	1.43*
Punishment for Mistakes	38	1.78	0.86	49	1.91	0.83	0.73*

* No statistically differences were found (α > 0.05).

Note: M= Mean, SD= Standard Deviation

Results from this study confirmed Hypotheses 3, that student-athletes show a preference for a Task-involving motivational climate (*t = 0.987, p < 0.05, n = 88*). Descriptive statistics showed corroborated a significant preference of student athletes towards a Task-oriented motivational environment, as the sum PMCSQ-2 score average of Important Role and Cooperative Learning (*4.19*) was found to be higher than the sum PMCSQ-2 score average of Unequal Recognition and Punishment for Mistakes characteristics *(2.00)*.

A paired *t*-test was performed to investigate the above finding in the

MANOVA (Table 5). The following results were found from the *t*-test: In

specific, the sum score average of Important Role was found to be significantly

higher than the sum score average of Unequal Recognition (Important Role =

4.13, Unequal Recognition = *2.16, SD = 1.40, df = 87, t = 13.15, p < 0.05, n =*

88), with a mean summated average difference of 1.97. The summated average

score of Important Role was found to be larger than the sum score average of

Punishment for Mistakes (Important Role = *4.13*, Punishment for Mistakes =

1.84, SD = 1.28, df = 87, t =16.723, p < 0.05), with a mean difference in

summated average of 2.29. The summated average score of Cooperative Learning

was found to be significantly larger than the sum score average of Unequal

Recognition (Cooperative Learning = *4.26*, Unequal Recognition = *2.16, SD =*

1.27, df = 87, t =15.40, p < 0.05), with a mean difference in sum average of 2.1.

The sum average score of Cooperative Role was found to be larger than the sum

score average of Punishment for Mistakes (Cooperative Learning = *4.26*,

Punishment for Mistakes = *2.41, SD = 1.25, df = 87, t =18.02, p < 0.05*), with a

mean difference in sum average of 2.15 (Table 5).

Table 5: *Paired Sample t-tests between Student-Athlete Preference in Motivational*

Climate

Motivation	n	M	SD	t (2-tailed)*	P value**
Important Role	88	4.13	.71	13.15	0.001**

Unequal Recognition	**88**	**2.16**	**.92**		
Important Role	88	4.12	.71	16.72	0.001**
Punishment for mistakes	88	1.85	.83		
Cooperative Learning	**88**	**4.26**	**.63**	**15.40**	**0.001****
Unequal Recognition	**88**	**2.16**	**.92**		
Cooperative Learning	88	4.26	.64	18.02	0.001**
Punishment for mistakes	88	1.85	.83		

* * Statistically differences were found ($\alpha < 0.05$).

Note: M= Mean, SD= Standard Deviation

     A paired *t*-test (Table 6) was performed to determine if the gender of the coach had a preference for either a Task-oriented or Ego-oriented motivational climate. The results did not any significant differences regarding the gender of the coach and Cooperative Learning (*t = -.13, p>0.05*), Important role (*t = .48, p>0.05*) and Punishment for Mistakes (*t = -1.88, p>0.05*). The results however, did show a significant difference between male and female coaches in Unequal Recognition (*t = -2.05, p<0.05, M_F = 2.32, M_m = 1.91*).

Table 6: Paired T-Test between gender of the coach and preferred motivational climate

| Motivation | Female | | | Male | | | |
	n	*M*	**SD**	*n*	*M*	**SD**	*t* (2-tailed)*
Cooperative Learning	54	4.27	0.66	34	4.25	0.70	.90*
Important Role	54	4.10	0.68	34	4.18	0.75	0.63*
Unequal Recognition	54	2.32	0.96	34	1.91	0.97	0.04**
Punishment for Mistakes	54	1.98	0.93	34	1.64	0.83	0.06*

* No statistically differences were found ($\alpha > 0.05$).

**Statistically differences were found ($\alpha < 0.05$)

Note: M= Mean, SD= Standard Deviation

The *Eta* test (Hypohesis4) showed no significant association between the gender of the athlete and the subscales of Cooperative Learning ($\eta = .004$), Unequal Recognition ($\eta = .0001$), Punishment for Mistakes ($\eta = .0036$), Important Role ($\eta = .0001$). The study did find a weak association between the gender of the coach and Unequal Recognition ($\eta = .22$) and Punishment for Mistakes ($\eta = .20$), but no significant correlation between Important Role ($\eta = .051$) and Cooperative Learning ($\eta = .014$).

CHAPTER 5

DISCUSSION

Results of this study, which examined whether the gender of the coach (Hypothesis$_1$ Hypothesis$_4$) had an impact on the type of motivational climate that is established on a college athletics team, suggested that no significant link between the gender of the coach and the type of motivational climate on a sports team existed. Previous research (Newton et al., 2000; Horn., 2002 and Olympiou et al., 2008) suggested a connection between the gender of the coach and the type of motivational climate that is established on a sports team and that female coaches tend to establish a more Task-involving motivational climate rather than an Ego-involving motivational climate. The results of this study could not reproduce evidence that the gender of the coach influences the motivational climate of a sports team, which may be attributed to the low number of surveyed athletes. However, this research did suggest that there is a significant difference between female and male coaches in one of the higher order Ego suborders, namely that of Intra Team Rivalry.

The results of the MANOVA suggested that athletes preferred a Task-oriented motivational climate above that of an Ego-oriented motivational climate (H$_3$). Further analysis of data was conducted via a paired sample t-test, which provided statistical support that athletes have a preference for a Task-oriented motivational climate; identical conclusions were made in studies conducted by Horn et al. (2011), and Sheehan et al., (2018).

In contrast to previously conducted studies (Bebetsos, et al., (2017); Revesz et al., (2014), this study suggested that the gender of the student-athlete (H_2) did not have a significant impact on their perception and predilection towards a specific motivational climate on the team. This can be attributed to the miniscule number of male athletes coached by females (n = 19, 21.6%) and the total number of male respondents (n=25, 28.41%) who completed the survey. Increasing both the number and proportion of representational male student-athletes being surveyed would provide richer quantitative data illustrating whether there truly is a difference in the view of male vs. female student-athletes regarding their predilections towards a specific motivational climate.

When disregarding gender as a factor, surveyed student-athletes (n = 88) illustrated a significant preference for a Task-oriented motivational climate. Such tendency towards a task-centric environment may initially be attributed to the overrepresentation of female student-athletes, albeit female athletes surveyed did not show a significant predilection towards a specific motivational climate. This is in contrast to previous research done by Sherman et al., (2000), which showed that females do prefer a democratic motivational environment.

Various factors may have influenced the results of this research ($Hypothese_1$), of which did not simulate previously conduct studies, as aforementioned. The performance of Track and Field and Cross-Country student-athletes can be objectively measured by times and distances and their inclusion in a team does not depend on the opinion and/or the goodwill of the coach. This can

be a reason why the gender of the coach was not significant in this study and why the subgroup of Intra Team Rivalry did show significant.

This study was limited by the size of the population of the study, as only 88 respondents completed the questionnaire. The population of previous studies were much larger, with surveyed athletes ranging from 100 to 300 (O'Rourke, Smith & Smoll, 2011 and Sheehan, Herring & Campbell, 2018)

Most of the respondents were track and field athletes, with a large proportion being distance and cross-country runners. These sports are more individualized and do not necessarily consist of a team sport, of which may have affected the outcome of the study. In addition, the majority of these athletes were coached by a woman, and therefore do not necessarily represent male athletes being coached by a male coach or female athletes being coached by a male coach. Research by O'Rourke et al., (2011) and Sheehan et al., (2018) also showed that individual sports such as swimming and Gaelic Games were more open to a Task-involving motivational climate than an Ego-involving motivational climate. Notably, previous studies conducted predominantly consisted of athletes belonging to team sports such as soccer (Castro-Sanchez, Zurita-Ortega & Ubago-Jiminez, 2018) or physical education students (Jakkola, Wang & Soini, 2015).

Earlier research conducted by Leedy (2000) illustrated that both track distance and cross-country athletes have a higher anxiety trait, of which is expected to sway their motivational climate preference towards a task-oriented environment. Athletes belonging to this choice of sport (i.e., long distance track running and cross country running) are not representative of all NCAA sports

teams. Therefore, results from this study predominantly represents track distance and cross-country college athletes, of which may assist in explaining the discrepancy in findings when compared to other studies (Newton et al., 2000; Horn et al.,2011; Bloom, Lura & Wilson et al., 2011; Olympiou et al., 2008).

Another factor that could have influenced the outcome of this study was that the researcher was not allowed direct access to student-athletes and was dependent on the goodwill of coaches to forward the questionnaire to their athletes. Such inaccessibility of the independent researcher may have led to bias by coaches whom did not allow athletes to complete the questionnaire, and may therefore impact the study's findings due to lack of representation from various sports teams. The deficiency of both male and female athletes from non-running based teams, the sheer number of athletes being surveyed, along with a diversity in athletes of specific genders being coached by male or female coaches (i.e., a lack of surveys received from male athletes being coached by male coaches, female athletes being coached by male coaches, male athletes being coached by male coaches, and female athletes being coached by female coaches) also may have contributed to bias.

Future Research Directions and Practical Implications

This study showed that athletes prefer a Task-oriented motivational climate. A follow up study with an expansive survey effort to represent most NCAA athletes needs to be conducted in order to gauge the overarching motivational climate established by NCAA coaches along with the motivational climate preferred by student-athletes as a means to increase the understanding of

student-athlete needs and raise awareness of their preference, of which may sustain a supportive environment that increases subjective performance. College athletes compete within a very competitive environment; therefore, as a supporting mechanism, both coaches and administrators need to be aware of the positive impacts a Task-oriented motivational climate may provide not only to the team, but to individual athletes, as well.

Further studies at the administrational level are necessary to inform and educate administrators of the advantages of a Task-oriented environment and to appoint coaches with this ability within a highly competitive environment. Administrators, in turn, should be made aware to appoint coaches who can establish and nourish a Task-oriented motivational environment on their teams as this will not only benefit the well-being of the athletes but also the performance of individuals and the team. Research should also be more diversified and inclusive and include a bigger variety of sports. The type of research can be expanded to a mixed method approach which will include both quantative and qualitative research methods. The longitudinal effect of a Task- and/or Ego- involving motivational climate needs to be explored as well.

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APPENDIX A: QUESTIONNAIRE

Questionnaire as posted on SurveyMonkey

Cover letter and Directions on Survey

Dear Participant

My name is Zola Pieterse and I am a graduate student of the Sport Management Department at Coastal Carolina University. I am conducting a research study as part of the requirements of my Master's degree in Sport Management, and I would like to invite you to participate.

I am studying differences in motivational climate between women and men coaches in coaching collegiate athletes. If you decide to participate, you will be asked to complete an online survey through SurveyMonkey. The survey will ask about your perception of the motivational climate your coach creates on your team. You do not have to answer any questions that you do not feel comfortable answering.

Participation is confidential and anonymous. The information that you provide will be kept in a secure SurveyMonkey account that is password-protected; your answers will therefore not be able to be tracked back to individual responders. While the results of the study will be reported, neither you or your answers will be identified in the reporting. To assist us in maintaining your anonymity, please don't include your name or other identifying information on any of the study materials.

Taking part in the study is strictly voluntary. You do not have to be in this study if you do not want to. You may also withdraw participating in the study at any time and/or may decide not to answer any question you are not comfortable answering. Participation, non-participation or withdrawal will not affect you in any way.

We will be happy to answer any questions you have about the study. You may contact me at 843-503-4822 or zpieter1@coastal.edu, or my faculty advisor, Dr. Don Rockey, at 843-349-4040 or drockey@coastal.edu if you have study related questions or problems. If you have any questions about your rights as a research participant, you may contact the Office of Sponsored Programs and Research Services at Coastal Carolina University at 843-349-2878 or OSPRS@coastal.edu.

Thank you for your consideration. If you would like to participate, please click on the "Next" button below and complete the online survey, which will take

approximately ten minutes.

Directions: Please think about how it has felt to play on your team throughout this season. What is it usually like on your team? Read the following statements carefully and respond to each in terms of how you view the typical atmosphere on your team. Perceptions naturally vary from person to person, so be certain to take your time and answer as honestly as possible. Choose the number that best represents how you feel. Note: Each item is responded t on a 5-point Likert-type scale (1= strongly disagree; 2 = disagree; 3= neutral; 4= agree; 5= strongly agree).

Questionnaire

1. On this team, the coach wants us to try new skills.

2. On this team, the coach gets mad when a player makes a mistake.

3. On this team, the coach gives most of his or her attention to the stars.

4. On this team, each athlete contributes in some important way.

5. On this team, the coach believes that all of us are crucial to the success of the team.

6. On this team, the coach praises athletes only when they do better than teammates.

7. On this team, coach thinks that only the stars contribute to the team.

8. Athletes feel good when they try their best.

9. Athletes are not allowed to compete if they perform badly.

10. Athletes of all levels have an important role on the team.

11. On the team, athletes help and support each other.

12. Athletes are encouraged to do better than their team mates.

13. My coach make sure that I improve on skills that I am not good at.

14. The coach has his/her favorites on the team.

15. My coach yells at us if we perform badly.

16. Athletes feel successful when they feel that they improve.

17. Only the best athletes get attention on the team.

18. Athletes are punished when they make a mistake.

19. Each athlete on the team has an important role to play.

20. When athletes try hard, they are rewarded.

21. My coach encourages athletes to help each other.

22. My coach makes clear who he or she thinks are the best players.

23. Athletes get "psyched" when they do better than their team mates.

24. If you want to compete, you have to be one of the best athletes on the team.

25. My coach emphasizes to always do my best.

26. My coach only notices the top athletes.

27. Athletes are afraid to make mistakes.

28. My coach encourages me to work on my weaknesses.

29. My coach favors some athletes more than others.

30. The focus of the team is to improve in competition and practice.

31. Athletes work together as a team.

32. Each athlete feels that he/she is an important member of the team.

33. Athletes help each other to improve and excel.

34. What is your gender? Female/Male.

35. What is your age?

36. What is your ethnicity?

37. What is the gender of your coach? Female/M

38. What sport do you play?

APPENDIX B: IRB PROPOSAL

IRB: Proposal of research study

OFFICE OF
SPONSORED PROGRAMS
AND RESEARCH SERVICES
COASTAL CAROLINA UNIVERSITY

January 22, 2018

Zola Pieterse
Donald Rockey
Coastal Carolina University
Conway, SC 29528

RE: Impact of Head Coach's Gender on Motivational Climate among College Athletes

Dear Zola:

It has been determined that your proposal **#2017.116 is EXEMPT** by Coastal Carolina University's Institutional Review Board under the Federal Policy for the Protection of Human Research Subjects Review Category #2.

This approval is good for one calendar year commencing with the date of approval and concludes on **1/21/2019**). If your work continues beyond this date it will be necessary seek a continuation from the IRB. If your work is concluded before this date please so inform the IRB.

Approval of this protocol does not provide permission or consent for faculty, staff or students to use university communication channels for contacting or obtaining information from research subjects or participants. Faculty, staff and students are responsible for obtaining appropriate permission to use university communications to contact research participants. For use of university e-mail to groups such as all faculty/staff, all students or other large groups on campus permission must be first obtained by the researcher from the Office of the Provost after the research protocol has been approved by the IRB. Please allow at least one week to receive approval.

Note, it is the responsibility of the principal investigator to report immediately to the CCU Institutional Review Board at osprs@coastal.edu any changes in procedures involving human subjects and any unexpected risks to human subjects, any detrimental effects to the rights or welfare of any human subjects participating in the project, giving names of persons, dates of occurrences, details of harmful effects, and any remedial actions. Such changes may affect the status of your research. The Amendment form is located at www.coastal.edu/osprs/irb.

Secondly, be advised that although Informed Consent is not specifically required for research that is Exempt from IRB review, should you elect to use them, signed Consent forms and/or other research records, as applicable, must be retained for at least three (3) years after termination of the research and shall be accessible for purposes of audit.

If you have any questions concerning this please contact Patty Carter, IRB Coordinator at pcarter@coastal.edu or (843) 349-2978.

Thank you,

Stephanie Cassavaugh
Director, Office of Sponsored Programs and Research Services
IRB Administrator