4-1994

Investigation of Past Performance and Sources of Motivation on Team and Self-Efficacy of Collegiate Soccer Players

Kevin P. Demers
Western Michigan University

Follow this and additional works at: https://scholarworks.wmich.edu/masters_theses
Part of the Health and Physical Education Commons, and the Sports Studies Commons

Recommended Citation
https://scholarworks.wmich.edu/masters_theses/3308

This Masters Thesis-Open Access is brought to you for free and open access by the Graduate College at ScholarWorks at WMU. It has been accepted for inclusion in Master’s Theses by an authorized administrator of ScholarWorks at WMU. For more information, please contact maira.bundza@wmich.edu.
This study investigated the relationship between past performance and sources of motivation on team and self-efficacy of collegiate soccer players. The subjects of this study were 92 male collegiate soccer players who participated in MIAA competition in the fall of 1992. Data were collected from team and self-efficacy questionnaires modified for this study. A sport motivation scale from Butt's (1987) Sport Protocol was also used to collect data. The findings of this study indicated that (a) past performance is the primary variable in predicting team efficacy; (b) the coach's rating of player ability was a stronger source of self-efficacy than the soccer team's collective efficacy, in an interdependent sport like soccer; (c) there is a reciprocal relationship team and self-efficacy in college soccer players; and (d) cooperation and competence, as individual sources of motivation, have a positive relationship with soccer team efficacy.
ACKNOWLEDGMENTS

I would like to express my sincere thanks to the members of my thesis committee, Dr. Debra S. Berkey, Dr. Marianne Frauenknecht, and Dr. Jody A. Brylinsky for their guidance in the completion of this project. I would especially like to thank my advisor, Dr. Jody A. Brylinsky, for her never ending time, patience, and expertise throughout this entire project.

I am extremely grateful to the men's soccer teams from the Michigan Intercollegiate Athletic Association. Their participation and cooperation in my study was greatly appreciated. I would also like to express my thanks to all of my friends for their support and encouragement throughout this project.

Finally, I would like to express my deepest thanks to my parents Jean-Marie and Norman Demers for their continuous encouragement, support, and love throughout this project and my entire life. I dedicate this thesis to them.

Kevin P. Demers, M.A.
# TABLE OF CONTENTS

**ACKNOWLEDGMENTS** .............................................................................................................. ii

**LIST OF TABLES** ...................................................................................................................... vi

**CHAPTER**

I. **INTRODUCTION** .................................................................................................................. 1
   - Self-Efficacy .......................................................................................................................... 2
   - Team Efficacy ....................................................................................................................... 4
   - Motivation and Team and Self-Efficacy ................................................................................ 5
   - Purpose of the Study ............................................................................................................. 5
   - Statement of the Problem ..................................................................................................... 6
   - Significance of the Study ...................................................................................................... 6
   - Definition of Terms .............................................................................................................. 6
   - Limitations ........................................................................................................................... 7
   - Delimitations ....................................................................................................................... 7

II. **REVIEW OF RELATED LITERATURE** .............................................................................. 8
    - Self-Efficacy and Motor Performance .................................................................................. 8
    - Team Efficacy and Motor Performance .............................................................................. 11
    - The Relationship of Motivation and Team and Self-Efficacy .......................................... 14

III. **METHODS AND PROCEDURES** ................................................................................... 16
    - Human Subjects Approval ................................................................................................. 16
    - Subject Selection ............................................................................................................... 16
    - Instrumentation .................................................................................................................. 17
      - Self-Efficacy Questionnaire ............................................................................................. 18
Table of Contents--Continued

CHAPTER

Team Efficacy Questionnaire .................................................. 19
Coach's Rating Scale .......................................................... 20
Sport Motivation Scale ...................................................... 20
Procedures ........................................................................... 21
Data Analysis ........................................................................ 22

IV. RESULTS AND DISCUSSION .................................................. 23

Results .................................................................................. 23
Descriptive Statistics ............................................................ 23
Multiple Correlation Matrix .................................................. 25
Stepwise Multiple Regression .............................................. 28
Discussion ............................................................................. 30
Self-Efficacy ........................................................................... 30
Team Efficacy ........................................................................ 31
Motivation ............................................................................. 32

V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS ........... 33

Summary .............................................................................. 33
Conclusions ........................................................................... 33
Recommendations ................................................................. 34

APPENDICES

A. Human Subjects Institutional Review Board Approval .............. 35
B. Prospective Subjects Letter ................................................ 37
C. Questionnaire Packet ......................................................... 39
D. Coach's Rating Scale ........................................................ 46
Table of Contents--Continued

BIBLIOGRAPHY ........................................................................................................................................ 48
LIST OF TABLES

1. Descriptive Statistics for Independent and Dependent Variables by Team .................................................... 24

2. Descriptive Statistics for Independent Variables by Team .......................................................... 26

3. Multiple Correlation Matrix ............................................................... 27

4. Beta Weights for Criterion Variables .................................................. 29
CHAPTER I

INTRODUCTION

Soccer is one of the most popular sports in the world as its status continues to grow at a fast pace in the United States. The World Cup Soccer Tournament will be hosted by the United States in 1994, highlighting a massive public relations effort. As interest continues to grow in the sport of soccer, so does the interest to understand more about the psycho-social dimension of the game. Soccer is characterized as an interpersonal sport, requiring cohesiveness, cooperation, teamwork, and team spirit from all of the players on the field (Kelly, 1985). Team success depends upon the ability of the individual players to work together as a team.

Historically, the team play of soccer was characterized by limited player roles that restricted movement of certain players to specific areas of the field for the purpose of offensive and defensive responsibilities. Today, "total soccer" emphasizes involvement and greater mobility of all players in both offensive and defensive positions. Players are constantly moving and interchanging positions in an attempt to gain a numerical advantage on different portions of the field. Hence, the success of player performance is more interdependent than in the past. Total soccer emphasizes that every player on the field be involved in all facets of the game. Joseph Luxbacher, in his 1992 book, Soccer: Winning Techniques, describes goal scoring as a result of total soccer:

It is important to realize that a goal scored is usually the result of a TOTAL team effort. Even though the goal scorer may receive most of the accolades, every team member has a role in the process. The goalkeeper must initiate the attack
with accurate distribution of the ball, defenders must push forward to support the attack, and midfielders must create opportunities for the front running players. Players off the ball must draw opponents into poor defensive positions to create open space within the defense. The player who scores the goal is actually putting the finishing touch on a well orchestrated effort of teammates (p. 33).

It is the responsibility of the coach to develop the skill level of each player while also trying to get players to operate as a unit on the playing field. Some coaches focus more on building the confidence of the individual player while others focus on building team confidence (Luxbacher, 1992). Self-confidence has been referred to as both a belief that one can successfully execute a specific activity and a global trait that accounts for overall performance optimism. For example, in soccer one may have a high level of confidence in shooting the ball with one's feet but a low level of confidence in one's overall soccer ability (Feltz, 1988). Team efficacy and self-efficacy are key concepts to improving the overall effectiveness of soccer performance.

Self-Efficacy

Self-efficacy is one of the most frequently cited psychological factors thought to affect sport performance. The theory of self-efficacy was developed within the framework of Bandura's (1986) social cognitive theory and has been defined as one's judgement of how well one can execute courses of action required to deal with perspective situations. Bandura (1986) found that self-efficacy is a product of a complex process of self-persuasion that relies on cognitive processing of different sources of information, such as past performance, vicarious experiences, persuasion, and physiological states.

In individual sports, past performance clearly influence self-efficacy through one's own mastery experiences. If one's mastery experiences have been perceived as successful, then self-efficacy will typically increase. However, if these experiences
have been perceived as failures then self-efficacy will usually decrease. Perceived difficulty of the task, the effort expended on the task, the amount of physical guidance received, and the timing of success and failure, are other factors that influence the effect of performance experiences on perceived self-efficacy (Feltz, 1992). Bandura viewed performance accomplishments as the most powerful source of self-efficacy because actually performing the skill well or being successful creates a strong sense of confidence that one can perform the required behaviors to produce the desired outcomes (Weinberg, Grove, & Jackson, 1992).

In team sports, athletes have the opportunity to gain information that will influence self-efficacy in regard to other performances through vicarious experiences. Vicarious experiences of efficacy information refers to obtaining information through a social comparison process with others. People who are inexperienced at a given task or situation will tend to rely on the performance or behaviors of others to judge their own capabilities. The more perceived similarities between performer and model in terms of performance or personal characteristics, the more influence the vicarious experience will have on perceived efficacy. Generally, vicarious sources of efficacy information are weaker than performance accomplishments (Gould & Weiss, 1981).

A third source of efficacy information comes through persuasion. Persuasion includes verbal persuasion, self-talk, and other cognitive strategies that will most likely be offered by the coach in the sport setting. Persuasive techniques are only effective when the heightened appraisal of capability is within realistic bounds for the performer. The effectiveness of persuasive techniques also depends on the credibility, prestige, trustworthiness, and expertise of the persuader (Feltz, 1992).

Sinclair and Vealey (1989) found that gains in self-efficacy were associated with immediate feedback provided by coaches. Athletes receiving immediate feedback
had a better opportunity to improve or correct their performance, thus feel more confident about their future performance ability. While the coach's perception of the athlete's ability is important as a source of efficacy information, it is likely to be weaker than information based on one's own performance accomplishments (Feltz, 1992).

The final source of efficacy information comes from physiological states. The physiological state or condition of the performer can provide efficacy information through cognitive appraisal. Associating physiological arousal with being psyched up and ready for performance or with fear and self-doubt will influence the self-efficacy of the performer. Bandura (1986) noted that self-efficacy beliefs are not limited to autonomic arousal. Performers also use levels of fitness, fatigue, and pain in strength and endurance activities as indications of physical self-efficacy (Feltz, 1992).

There appears to be a positive relationship between self-efficacy expectations and sport performance (Mueller, 1992). There is also research to support the notion that self-efficacy influences effort expenditure, persistence, and choice of activity. High levels of perceived self-efficacy lead people to set higher goals and strengthen their commitment to these goals. Self-efficacy can create further motivational inducements and enhance future performance (Lee, 1982, 1988).

Team Efficacy

Collective or team efficacy is a term coined by Bandura (1986) to reflect that groups often have collective expectations for success that require a team effort to produce the desired result. The concept of collective or team efficacy is relatively new but is particularly germane to the world of sports. Collective efficacy influences what individuals choose to do as a group, how much effort will be put into the selected task,
and what their staying power will be when the group doesn't produce the desired results (Spink, 1990).

**Motivation and Team and Self-Efficacy**

Much of the research on team and self-efficacy has focused on their respective influences on performance. According to Bandura, self-efficacy is a major determinant of performance only when motivation and the necessary skills are present. Most of the efficacy research in sport and physical activity has assumed the presence of motivation rather than assessing and controlling for this factor (Feltz, 1992).

**Purpose of the Study**

A review of literature indicates that team efficacy influences performance. However, little is known regarding factors that have an impact on team efficacy. The purpose of this study was to investigate the relationship of past performance, sources of motivation, and coach's rating of ability with team and self-efficacy of collegiate soccer players. Dependent variables consisted of team and self-efficacy as measured by questionnaires from Feltz, Bandura, and Lirgg (1989) modified for use in this study. Independent variables consisted of coach's rating of player ability as measured through a scale developed to measure the individual soccer skills of participating players, and five sources of sport motivation measured in Butt's Sport Protocol (1987). Past performance as measured by win/loss percentage also served as a third independent variable. Team and self-efficacy were considered as independent variables when examining their relationship to each dependent variable.
Statement of the Problem

This study examined the relationship of past performance, sources of motivation, and coach's rating of ability with team and self-efficacy of collegiate soccer players.

Significance of the Study

A review of literature revealed that the need for more research in the area of team and self-efficacy does exist. Specifically, leading work by Feltz (1992) indicates research is needed on team and self-efficacy as they relate to team performance. The implications of Feltz' (1989) line of research has shown that measures of team efficacy needed to be redefined to minimize response distortion. When subjects were asked to rate their confidence on a scale of zero to ten, only the upper portion of the scale was used.

There has also been little research that has controlled for sources of motivation in examining team and self-efficacy. This study attempts to provide a better understanding of the factors influencing the perception of team and self-efficacy which could be beneficial to both players and coaches in team sports.

Definition of Terms

1. Past performance: For the purpose of this study past performance refers to the win/loss percentage of the previous conference season.

2. Self-efficacy: One's judgement of how well one can execute courses of action required to deal with perspective situations (Bandura, 1986).
3. Team efficacy: A term coined by Bandura (1986) to reflect the collective expectations for success or effort to produce the desired results when individual performance is dependent on the performance of others.

4. Total soccer: Characterizes the game of soccer in which there is greater emphasis on the involvement and mobility of all players in both offensive and defensive positions (Luxbacher, 1992).

Limitations

The interpretation of the results of this investigation was limited by the following:

1. The low to moderate reliability of the sport motivation scales from Butt's (1987) Sport Protocol may have contributed to a less accurate understanding of the association of motivation with team and self-efficacy.

2. The accuracy of the coach's rating scale as an indicator of player ability relied on the assumption that the coach would be knowledgeable and objective.

3. The accurate representation of team and self-efficacy may have been influenced by the time span between the previous fall soccer season and the time of data collection.

Delimitations

The interpretation of the results of this investigation was delimited to the following:

1. All participants were male collegiate soccer players.

2. All the teams that were asked to participate were from the Michigan Intercollegiate Athletic Association, a NCAA Division III conference.
CHAPTER II

REVIEW OF RELATED LITERATURE

The review of literature focuses on the influence of team and self-efficacy on motor performance and motivation behavior.

Self-Efficacy and Motor Performance

Bandura's theory poses self-efficacy as a common cognitive mechanism for mediating peoples' motivation and behavior. The judgement that people have of their ability to perform at given levels affect their choice of activities, effort expenditure, persistence, their thought patterns, and their emotional reactions in different situations. Feltz (1988), found that much of the efficacy research in sport and motor performance has focused on examining (a) the effects of various methods used to create athletic competence in self-efficacy and performance, and (b) the relationship between self-efficacy and performance.

Barling and Abel (1983) conducted a study to assess the relationship between self-efficacy, performance, and valence expectancies (strength of efficacy belief) with tennis performance. They found that self-efficacy beliefs were significantly related to the self-rating of the 12 dimensions of tennis performance. However, strength of efficacy was only found to be related to two tennis dimensions, concentration and competition. This is consistent with Bandura's theory in that perceived success experiences are the principle motivators of behavior.
Lee (1982) examined the role of self-efficacy as a predictor of competitive gymnastics performance. Subjects were young, fairly inexperienced, gymnasts training for their first major competition. The results of the study suggested that young gymnasts who thought they would do well, were able to predict their competition performance fairly accurately. The accuracy of the prediction appeared not to be affected by age, but by experience and ability, and that those gymnasts with the most experience and ability were the most accurate predictors.

In 1983, McCauley and Gill focused on the self-efficacy of intercollegiate athletics, specifically women's gymnastics. The purpose of their investigation was to compare the Physical Self-Efficacy Scale (PSE) (a measure of an individual's perceived physical self-confidence) to task-specific measures of self-efficacy and to explore the relationships between these measures and performance.

Research had predicted that, given the PSE is a measure of general physical self-efficacy, a strong relationship between the PSE and actual performance on the criterion variable (performance score) would not be expected. However, task specific measures of self-efficacy and the gymnasts' predictions of performance scores were moderately correlated with performance scores. The researchers determined that the measures of predicted score and self-efficacy were highly intercorrelated.

McCauley and Gill (1983) found that the individual's knowledge, experience, and past accomplishments combined to form a more accurate representation of event-specific efficacy expectations than did measures constructed by researchers, judges, and coaches. These results suggested that the individual may use other sources of success information in combination with self-efficacy expectations to assess how well s/he will perform in competition.
Feltz and Mungo (1983) conducted a study to try to replicate the path analysis of the Feltz 1982 study examining the additional influence of perceived physiological arousal on self-efficacy and performance of a modified back dive. Feltz and Mungo (1983) predicted, from Bandura's theory, that self-efficacy acted as a mediating variable between one's sources of efficacy information and performance and that a reciprocal relationship existed between self-efficacy and performance and between self-efficacy and physiological arousal. Another prediction was that the perception of arousal was a better predictor of self-efficacy than actual physiological arousal but not better than previous diving performance.

Feltz and Mungo (1983) found, as Feltz (1982) did previously, that although the subjects' self-efficacy was the major predictor of performance in trial one, subjects' heart rates also significantly predicted performance. After trial one, back-diving on a previous trial was the major predictor of performance on the next trial. The role of self-efficacy as a mediating variable between previous diving performance and subsequent back-diving performance was not as strong as the direct influence of one performance to another.

The Feltz and Mungo (1983) study also found a reciprocal influence between self-efficacy and performance over trials, although they were not equally reciprocal. While the strength of self-efficacy as an effect of performance increased, its strength as a causal influence decreased. The deterioration of correlations between self-efficacy and diving performance also showed that self-efficacy became less of a direct cause of performance as subjects experienced greater mastery on the dive. No reciprocal relationship between physiological arousal and self-efficacy was found. Heart rate was not a predictor of self-efficacy nor was self-efficacy a predictor of heart rate (Feltz & Mungo, 1983).
Gayton, Matthews, and Burchstead (1986) attempted to extend the criterion and predictive validity of physical self-efficacy to other sport settings by examining the relationship between perceived physical self-efficacy and marathon running. The results demonstrated that there was not a significant relationship between self-efficacy and predicted finishing time. The relationship between general physical self-efficacy and marathon running performance was mediated primarily by perceived physical ability (Gayton, Matthews, & Burchstead, 1986).

Weiss, Wiese, and Klint (1989) performed a study to investigate the relationships among self-efficacy, competitive anxiety, worry cognitions, years of experience, and performance in young male gymnasts. Results indicated significant relationships for five of the six gymnastic events and for all-around performance. The findings of this study complemented previous research on young wrestlers by Gould, Horn, and Spreeman, 1983 (as cited in Weiss, Wiese, & Klint, 1989) in which those who placed well in a tournament reported higher perceptions of ability, predicted higher levels of performance success and confidence in their predictions than did nonplacers. Gymnasts who predicted higher levels of performance success, and thus demonstrated higher self-efficacy, performed better. The researchers felt that the results of this study suggested that coaches should focus on enhancing self-efficacy in their young athletes in order to affect performance outcomes (Weiss et al., 1989).

Team Efficacy and Motor Performance

The relationship between self-efficacy and team performance seems less direct than self-efficacy and individual performance. Lee (1988) suggests that the weak positive relationship between self-efficacy and team performance may be due to team sport athletes' trouble in isolating causes of their own poor performance since it
depends on the performances of collaborating others. Team or collective efficacy, as it has been termed, was introduced by Bandura to reflect that groups often have collective expectations for success and to achieve this success requires a sense of collective efficacy (Bandura, 1982, 1986).

Team efficacy appears to be particularly germane to the sporting situation as it can influence what individual's choose to do as a group, how much effort they will put into accomplishing a selected task, and their staying power, when the group fails to produce desired results (Bandura, 1986). Hodges and Carron (1992) examined the effects of different levels of collective efficacy on group performance in a muscular endurance task. High efficacy groups improved their performance following failure whereas the low efficacy groups exhibited a decrement in performance.

Few studies exist that examine the relationship between team efficacy and team performance, however, those that are available suggest that a relationship does exist. Spink (1990) performed a study using a sample of elite volleyball teams and found a relationship between team efficacy and team outcome. Although the main purpose of the study was to examine the relationship between group cohesion and team efficacy, it was found that team efficacy was related to placing in a volleyball tournament. Specifically, it was revealed that high team efficacy teams, as determined prior to the commencement of the tournament, finished significantly higher in the tournament than low team efficacy teams.

Feltz and her colleagues have conducted two studies on team efficacy involving collegiate ice hockey teams. In the first study, Feltz, Bandura, Albrecht, and Corcoran (1988) assessed the relationship between perceived team efficacy of a collegiate hockey team and several measures of team performance at the start of the season. The results
revealed only one significant relationship - the stronger the perceived team efficacy, the higher the power play percentage.

The second study, conducted by Feltz, Bandura, and Lirgg (1989), examined the relationship between self-efficacy, team efficacy, and team performance in collegiate ice hockey across a 32-game season. Two research questions were developed for the basis of the study: (1) what was the correlation between players' confidence in their team's ability to perform successfully and their team's performance, and (2) what was the correlation between players' confidence in their own ability to perform successfully and their team's performance?

The subjects for the study were members (n = 170) of seven out of nine collegiate hockey teams and their head coaches. For analysis, however, the data from the head coaches was not used. Each team's athletic trainer was responsible for the administration of all questionnaires. They were sent written instructions on how to administer the questionnaire and were contacted by phone. As an incentive, they were each given $100 at the end of the season (Feltz, et al., 1989).

Eight items of team efficacy and three items of self-efficacy were developed through a conceptual analysis of hockey in consultation with the coaches. The four dependent measures of the study were perceived team rankings, team efficacy, self-efficacy, and team performance statistics. Confidence ratings were made for each team before each game. All eight team efficacy questions were summed and averaged with the same procedure being followed for the three self-efficacy questions (Feltz et al., 1989).

The results indicated the lowest agreement for team efficacy was .96 and self-efficacy was .93, which meant that there was substantial agreement among players within teams regarding confidence. Using unaggregated scores, team efficacy
correlated more highly than self-efficacy with outcome measures in 16 games, whereas self-efficacy correlated more highly in only six games. Team efficacy appeared only slightly more related to team performance than was self-efficacy and team performance. Team efficacy increased across the first half of the season, decreased after Christmas until just before the playoffs, when team confidence increased again (Feltz et al., 1989).

The Relationship of Motivation and Team and Self-Efficacy

Evidence from varied lines of research reveals that self-efficacy can have diverse psychological effects. Efficacy may affect choice of pursuits, levels of motivation, both directly through mobilization and maintenance of effort, and indirectly by their impact on goal setting.

Bandura and Wood (1989) tested the hypothesis that perceived controllability and stringency of performance standards would affect self-regulatory mechanisms governing performance attainments of a simulated organization. Results of the study showed that viewing an organization as controllable increased the perceived self-efficacy to manage it. These results also show that the belief in one's ability to mobilize the efforts of others in a joint endeavor promotes organizational attainments, as well as individual accomplishments.

Bandura and Wood (1989) also found that perceived self-efficacy not only heightens motivation in response to below average performances but also reduces vulnerability to stress and depression. The high levels of perceived self-efficacy of subjects enabled them to withstand chronically unfulfilled assigned challenges without falling victim to demoralization. Prior performance affected personal goals, as did
perceived self-efficacy, although at a marginal level of significance. Personal goals were marginally related to subsequent performance.

Perceived self-efficacy influenced performance both directly and through its strong effect on personal goal setting. Personal goals enhanced organizational attainments directly and by means of analytic strategies. When initially faced with the task of managing a complex unfamiliar environment, subjects gave significant weight to performance information in judging their efficacy and setting their goals. However, after they began to form a self-schema concerning their efficacy through further experience, the performance system was powered more extensively and intricately by self-conceptions of efficacy (Bandura & Wood, 1989).

Bandura (1986) has suggested that the influence of team and self-efficacy on performance is mediated by motivation. Miller, Carlyle, and Pease (1992) suggested that the relationship between self-efficacy and motivation is more elusive than was previously believed. Although they found a significant association between self-efficacy and motivation, low, moderate, and high skilled swimmers with high self-efficacy possessed significantly lower motivation than was anticipated. Butt (1987) has developed a motivational model explaining the complexities in motivation behavior. The model provides a framework that proposes four levels of influence on motivation, specifically biological, psychological, social, and reinforcement. The psychological level represents channeling of physical and instinctive personal variables into various psychological states, specifically aggression, neurotic conflict, and competence. The social level represents the attitudes and feelings of the athlete towards others within the sports environment. Butt (1987) suggests that the most constructive relationship between the psychological and sociological levels is one that predominantly focused on competence and cooperation.
CHAPTER III

METHODS AND PROCEDURES

The purpose of this study was to investigate the relationship of past performance, sources of motivation and coach evaluation of player ability on team and self-efficacy of collegiate soccer players. The methods and procedures have been organized in the following manner: (a) human subjects approval, (b) subject selection, (c) tests and procedures, (d) instrumentation, and (e) data analysis procedures.

Human Subjects Approval

Approval for this study was obtained from the Human Subjects Institutional Review Board of Western Michigan University, Kalamazoo, on February 10, 1993. Appendix A contains a copy of the letter (HSIRB Project Number 93-02-03). Verbal approval to conduct research with college athletes was attained by phone from the League Commissioner of the Michigan Intercollegiate Athletic Association Conference on March 1, 1993.

Subject Selection

The subjects in this study were solicited from the list of approximately 140 male athletes competing in the varsity soccer programs comprising the Michigan Intercollegiate Athletic Association (MIAA) in the fall of 1992. The MIAA consists of seven private colleges located in the state of Michigan. The MIAA has had a history of
successful intercollegiate soccer programs. Three of the schools were highly ranked among Division III schools in the region during the fall of 1992.

Upon receiving approval from the commissioner of the league, each team's coach was contacted by phone and asked to participate in the study. After receiving agreement from all seven teams to participate in the study, a letter was sent to each player asking for his participation. The letter included the date, time, and location in which data collection would take place at each respective campus. A copy of this letter can be found in Appendix B.

Subjects were also contacted by phone or mail and asked to go to their respective athletic office and complete a coded packet at their own convenience. The packets were left with the athletic offices rather than the respective coach to ensure the confidentiality of subjects. The letter in the packet emphasized that participation in the study was completely voluntary. Upon a player's completion of the packets, the materials were left with the respective athletic office. After three weeks the packets were collected either through the mail or picked up by the researcher. Appendix C contains a copy of the packet given to the players.

Due to the close proximity of Kalamazoo College to Western Michigan University, individual coded packets were distributed through campus mail to each player. The packet included a letter explaining the study and providing instructions for the players to complete the packet. The players were asked to return the completed packets to a box left at the athletic office to be collected by the researcher.

Instrumentation

Players choosing to participate in the study were asked to complete a self-designed team and self-efficacy questionnaire and the sport motivation scales of the
Sport Protocol (Butt, 1987). Coaches were asked to complete a soccer skill rating scale for the players who had agreed to participate in the study.

**Self-Efficacy Questionnaire**

The self-efficacy questionnaire was originally developed by Feltz, Bandura, and Lirgg (1989) for investigation of the perceived collective efficacy of collegiate ice hockey players. The questionnaire was designed to measure three items reflecting the individual's ability to successfully compete: (1) outperforming offensive opponent, (2) outperforming defensive opponent, and (3) bouncing back from performing poorly. For the purpose of this study a fourth item was added: Outperforming opponent overall. This item was added in an attempt to gain a stronger measure of the player's self-efficacy.

In addition, wording of the questionnaire used by Feltz et al. (1989) was changed to be applicable to soccer. Based on recommendations in the ice hockey study, the questionnaire format was changed to a five point likert scale incorporating a semantic differential type format in an attempt to minimize response distortion. Feltz, et al. (1989) used a number scale from zero through ten for likert type response options, reporting that the lower half of the scale was rarely used for the self-efficacy measures. The questionnaire in this study provided a range of opposite meanings on a five point continuum for each response. Instructions in the present study directed the subject to circle the star closest to the statement that he believed best described his soccer skill.
The team efficacy questionnaire developed by Feltz et al. (1989) was also modified for use in this study. The original questionnaire was designed to measure eight hockey team oriented items developed from a conceptual analysis by hockey coaches. An internal consistency analysis revealed a Cronbach Alpha of .93 on the eight items that made up team efficacy (Feltz et al., 1989). Using a similar conceptual process, modifications were made to the original questionnaire for application to the sport of soccer.

Three original items remained the same for this study: (1) win (next year), (2) bounce back from performing poorly, and (3) goaltender's ability. The rest of the items were modified from hockey to soccer as follows: (1) outskate to outwork, (2) outcheck to win 50/50 challenges, (3) score on power plays to score on set plays, (4) kill penalties to defend against set plays, and (5) force more turnovers to play well in adverse conditions. This last item was changed since environmental conditions were believed to be more pertinent than frequently occurring turnovers. Soccer is played outdoors in various weather conditions and on various field conditions.

A ninth item was added to the team efficacy instrument that was not included in the Feltz et al. (1989) questionnaire. The new item was identified as: confidence in the coach. Bandura (1989) felt that the coach's perceived efficacy may have an important impact on team performance and has yet to be explored when discussing team efficacy.

The format of the team efficacy questionnaire was parallel to that of the self-efficacy questionnaire in that it consisted of a five point likert scale with a semantic differential format. The instructions directed the player to circle the star closest to the statement that he believed best described his team.
Coach's Rating Scale

A soccer skill rating scale was also developed for this study to be completed by each respective team's coach. The purpose of this scale was to provide a measurement of each player's skill as measured by past performance. The coach's rating scale measures the same four items that the self-efficacy questionnaire measures but it was worded in the past tense to describe the player's performance in the prior season. The format of the questionnaire was a five point likert scale using a semantic differential type design. Instructions asked the coach to circle the star closest to the statement that best described the player's soccer skills. A copy of this scale can be found in Appendix D.

Sport Motivation Scale

The sport motivation scale was used to assess the individual motives of the subjects. The sport motivation scale is one of five subscales comprising Butt's Sport Protocol (1987) designed to provide a psychological profile of an athlete. Approximately 1000 participants have responded to the Sport Protocol in various studies and over 1000 have participated in the studies of other researchers who have used the instrument. It has been translated into five languages other than English and has therefore been used with participants from many nations with varying results. Overall the Sport Protocol has proven to be a useful instrument in describing and documenting affective processes, motivations, and socialization in sport (Butt, 1987).

In studies examining the psychometric properties of the sport motivation scales, split-half reliabilities ranged from .43 to .75 while stability coefficients during a two week time lapse ranged from .50 to .80. Construct validation coefficients ranged from correlations of .18 to .67 with other test measures.
The sport motivation scales were developed to measure five sources of motivation: (1) aggression, (2) conflict, (3) competence, (4) competition, and (5) cooperation. Butt (1987) defines aggression as feelings of power, vivacity, anger, and strength that can cause an individual, when frustrated, to lash out physically and/or verbally, as aggressive individuals often lack self-control. Conflict involves the struggle between opposing feelings that can result in self-destructiveness, self-absorption, and the blaming others. Feelings of pleasure, elation, and self-esteem accompany activity and interaction with others with competence is a source of motivation. Setbacks and failures are accepted as a realistic part of learning and development with competence. Competition has been defined by Butt (1987) as the psychological perception of the environment as an adversary where the object is to win, often at all costs. Finally, cooperation has been defined as the psychological perception of the environment as supportive and interdependent with the self. The individual has feelings of joy of being a member of the team and seeks to raise the level of performance of everyone as a group.

Each player was instructed to circle yes or no in responding to the 50-item questionnaire. The instructions also requested the player to circle no if the question was not applicable to soccer and to circle yes if he felt the best answer to the question was sometimes. The 50 items of the sport motivation scale (Butt, 1987) produce 10 items per subscale that are scored by positive responses to each question. Therefore, the highest score that a player can get on a subscale is 10 points.

Procedures

Those players who chose to participate in the study when the researcher was on campus to collect data were asked to sign a letter of consent upon arrival. The players
were then given a coded packet containing the team and self-efficacy questionnaires and
the sport motivation scale. They were then instructed to complete the packet. No time
limit was set for completion. Throughout the collection of data it was emphasized that
the player's responses were completely confidential and they were encouraged to be
honest when responding.

Each respective coach was given a soccer skill rating scale for each of his
players participating in the study. The coach was to record the designated code number
to rate each player's soccer skill to further ensure confidentiality. The coach was
instructed to go to a separate room to evaluate the individual soccer skills of the
participating players. After completing the rating scale the coach was instructed to
destroy the list matching the player's name and code number. The rating scale was
collected with the player packet. Scoring of the sport motivation scale was done by
hand and then all of the data was entered in to the computer.

Data Analysis

The purpose of this study was to examine the relationship between past
performance, individual sources of motivation, and coach's rating of player skill with
team and self-efficacy. Data was subjected to descriptive analysis and multiple
correlation matrix. To determine which variables had the greatest relationship to team
efficacy and self-efficacy the correlation matrix was subsequently subjected to a
stepwise multiple regression analysis. A probability level of greater than .05 level of
significance was used as the criterion for acceptance into the equation.
CHAPTER IV

RESULTS AND DISCUSSION

This chapter includes the results and discussion of the relationship of past performance, sources of motivation, and coach's rating of skill, with the subjects' perception of team and self-efficacy. Also included in this chapter is the discussion of pertinent results.

Results

Descriptive Statistics

Data was analyzed on 92 subjects (n = 92) out of approximately 140 potential soccer players from the seven teams that comprise the Michigan Intercollegiate Athletic Association Conference. All of the schools were represented in the study with a minimum of seven subjects responding from one school. The 92 subjects who volunteered to participate represented 66 percent of the players in the conference. All seven of the conference soccer coaches participated in the study.

Descriptive statistics for the independent and dependent variables by team are provided in Table 1. The mean score for win/loss percentage for all the schools was 53.087 since each team played a home versus away schedule with each other conference school. While three teams were representative of the mean, two teams did significantly worse with a winning percentage of .08 winning only 1 of 12 conference games. The two teams with the best records won 10 of 12 games (83%) and 9 of 12 games (75%) respectively. A oneway analysis of variance indicated that there was no
Table 1
Descriptive Statistics for Independent and Dependent Variables by Team

<table>
<thead>
<tr>
<th>Team</th>
<th>W/L %</th>
<th>SE</th>
<th>TE</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mean</td>
<td>83</td>
<td>16.905</td>
<td>40.619</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>2.468</td>
<td>2.692</td>
<td>4.953</td>
</tr>
<tr>
<td>2</td>
<td>Mean</td>
<td>58</td>
<td>16.050</td>
<td>34.950</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>2.139</td>
<td>4.489</td>
<td>2.891</td>
</tr>
<tr>
<td>3</td>
<td>Mean</td>
<td>08</td>
<td>16.167</td>
<td>32.583</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>1.528</td>
<td>6.829</td>
<td>2.167</td>
</tr>
<tr>
<td>4</td>
<td>Mean</td>
<td>58</td>
<td>14.917</td>
<td>35.167</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>1.929</td>
<td>3.589</td>
<td>2.864</td>
</tr>
<tr>
<td>5</td>
<td>Mean</td>
<td>08</td>
<td>15.125</td>
<td>30.000</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>2.696</td>
<td>3.251</td>
<td>3.623</td>
</tr>
<tr>
<td>6</td>
<td>Mean</td>
<td>50</td>
<td>15.583</td>
<td>35.500</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>2.746</td>
<td>5.947</td>
<td>4.239</td>
</tr>
<tr>
<td>7</td>
<td>Mean</td>
<td>75</td>
<td>17.714</td>
<td>39.286</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>1.604</td>
<td>3.039</td>
<td>2.370</td>
</tr>
<tr>
<td>Total</td>
<td>MEAN</td>
<td>53.07</td>
<td>16.098</td>
<td>35.935</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>2.307</td>
<td>5.430</td>
<td>3.641</td>
</tr>
</tbody>
</table>

Note: SE = Self-Efficacy  
TE = Team Efficacy  
CR = Coaches Rating  
W/L % = The number of wins divided by 12 total games per team.
significant difference between the teams in their mean self-efficacy ratings, \( F(6, 85) = 1.987, p = .0763 \).

Self-efficacy scores were relatively high with a mean score of 16.098 out of a possible 20 points. This indicates that the majority of the subjects had a perceived high level of self-efficacy in their abilities as soccer players. Noticeably, the teams with a win/loss record of 75% or higher had self-efficacy scores of 16.905 or higher. The team with the lowest self-efficacy scores had a win/loss of 58%.

Team efficacy scores were also quite high with a mean score of 35.935 out of 45 possible points, suggesting the majority of these teams had a relatively high level of confidence in their teams as well. Again, the teams with the best win/loss record had the highest levels of team efficacy whereas the two teams that had the lowest win/loss records had the lowest levels of team efficacy \( F(6, 85) = 8.201, p = .0001 \).

Descriptive analysis of the sport motivation scale revealed that the primary sources of individual motivation by team were cooperation, aggression, and competence (see table 2). Competition and conflict were the least important sources of motivation, \( F(4, 456) = 38.546, p = .001 \).

Descriptive analysis of the coaches' rating of players' skill revealed a moderate degree of perceived ability, 13.098 out of 20 possible points. This was noticeably less (a mean difference of 3 points) than the players perception of their ability. This indicates that the players' have a higher level of perceived efficacy in their ability than that perceived by the coach.

**Multiple Correlation Matrix**

A multiple correlation matrix was used to describe the relationship between all variables (see Table 3).
Table 2
Descriptive Statistics for Dependent Variables by Team

<table>
<thead>
<tr>
<th>Team</th>
<th>COOP</th>
<th>COMP</th>
<th>CONF</th>
<th>AGGR</th>
<th>COPET</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mean</td>
<td>9.476</td>
<td>8.095</td>
<td>5.571</td>
<td>6.524</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>.680</td>
<td>1.261</td>
<td>2.014</td>
<td>2.228</td>
</tr>
<tr>
<td>2</td>
<td>Mean</td>
<td>7.650</td>
<td>5.500</td>
<td>5.550</td>
<td>6.750</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>1.755</td>
<td>2.013</td>
<td>2.114</td>
<td>2.099</td>
</tr>
<tr>
<td>3</td>
<td>Mean</td>
<td>8.250</td>
<td>6.667</td>
<td>4.750</td>
<td>6.833</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>1.545</td>
<td>2.015</td>
<td>2.301</td>
<td>2.250</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>.793</td>
<td>1.850</td>
<td>2.221</td>
<td>1.528</td>
</tr>
<tr>
<td>5</td>
<td>Mean</td>
<td>7.250</td>
<td>7.250</td>
<td>5.875</td>
<td>8.125</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>1.488</td>
<td>1.982</td>
<td>2.357</td>
<td>1.458</td>
</tr>
<tr>
<td>6</td>
<td>Mean</td>
<td>9.167</td>
<td>7.667</td>
<td>6.500</td>
<td>8.583</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>1.030</td>
<td>1.670</td>
<td>2.067</td>
<td>1.564</td>
</tr>
<tr>
<td>7</td>
<td>Mean</td>
<td>8.857</td>
<td>7.286</td>
<td>4.143</td>
<td>5.286</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>.900</td>
<td>2.289</td>
<td>1.952</td>
<td>2.059</td>
</tr>
<tr>
<td>Total</td>
<td>MEAN</td>
<td>8.630</td>
<td>7.120</td>
<td>5.587</td>
<td>7.141</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>1.465</td>
<td>2.005</td>
<td>2.164</td>
<td>2.131</td>
</tr>
</tbody>
</table>

Note:  COOP = Cooperation
       COMP = Competence
       CONF = Conflict
       AGGR = Aggression
       COPET = Competition
Table 3
Multiple Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>AGGR</th>
<th>CONF</th>
<th>COMP</th>
<th>COOP</th>
<th>COPT</th>
<th>W/L</th>
<th>SE</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGGR</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONF</td>
<td>.375</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COMP</td>
<td>.325</td>
<td>.186</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COOP</td>
<td>-.011</td>
<td>.014</td>
<td>.453</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COPT</td>
<td>.449</td>
<td>.295</td>
<td>.279</td>
<td>.164</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>W/L</td>
<td>-.174</td>
<td>.023</td>
<td>.145</td>
<td>.340</td>
<td>.165</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.E.</td>
<td>-.016</td>
<td>-.221</td>
<td>.221</td>
<td>.154</td>
<td>-.008</td>
<td>.182</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>C.R.</td>
<td>.083</td>
<td>-.182</td>
<td>.254</td>
<td>.190</td>
<td>.021</td>
<td>.077</td>
<td>.520</td>
<td>1</td>
</tr>
<tr>
<td>T.E.</td>
<td>-.156</td>
<td>-.129</td>
<td>.242</td>
<td>.446</td>
<td>-.087</td>
<td>.557</td>
<td>.375</td>
<td>.170</td>
</tr>
</tbody>
</table>

Note: COOP = Cooperation
COMP = Competence
CONF = Conflict
AGGR = Aggression
COPT = Competition
W/L = Win/Loss Percentage
SE = Self-Efficacy
CR = Coaches Rating
TE = Team Efficacy

Self-efficacy was most related to the perceived ability rating of the coach (r = .52). Players who had coaches who judged their ability to be high had higher levels of self-efficacy than if their perceived ability was judged as low. There was a weaker
relationship between self-efficacy and win/loss percentage ($r = .182$) than there was between team efficacy and win/loss percentage ($r = .557$). Team efficacy was positively correlated with self-efficacy ($r = .375$), but less of an influence than the coach's rating of ability ($r = .520$). The motivational source of competence had a greater association with self-efficacy ($r = .221$) than win/loss percentage ($r = .182$). Equally important was the negative relationship between the motivation source conflict and self-efficacy ($r = -.221$). The less a player was motivated by internal conflict the greater the individual's level of self-efficacy.

As expected, self-efficacy and win/loss record had small to moderate positive relationships with team efficacy, respectively $r = .375$ and $r = .557$. The higher the winning percentage and more confident the players were of their individual ability, the higher the level of team efficacy. Also as expected, the motivation sources of cooperation and competence had a positive relationship with team efficacy, respectively $r = .446$ and $r = .242$. Teams that were comprised of individuals motivated by the success of others as well as individual achievement had a higher level of team efficacy than those less motivated by these motivational sources.

**Stepwise Multiple Regression**

The stepwise multiple regression analysis was conducted to determine the importance of the association of the dependent variables with team and self-efficacy. The analysis indicated that there was a significant relationship between past performance as reflected in win/loss percentage, level of self-efficacy and source of motivation with team efficacy (see Table 4). The multiple regression for this equation was $R = .699$ which accounted for $.489$ percent of the variance in the team efficacy. The best relative predictor variables were win/loss percentage (Beta = .447), self-
efficacy (Beta = .247), and cooperation (Beta = .289) as a source of motivation. Coach’s rating of skill did not significantly contribute to determining the level of team efficacy, neither did the motivational sources of aggression, conflict, and competition.

A different set of predictor variables evolved from the stepwise multiple regression on self-efficacy than with team efficacy. The multiple regression for this equation was $R = .595$ which accounted for self-efficacy.355 percent of the variance in self-efficacy. The strongest predictor variables for self-efficacy were the coach’s rating (Beta = .469) of player skill and team efficacy (Beta = .295). None of the five sources of motivation or win/loss record significantly contributed to self-efficacy (see Table 4).

Table 4

<table>
<thead>
<tr>
<th>Predictor Variables</th>
<th>Team Efficacy</th>
<th>Self-Efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Win/Loss %</td>
<td>.447</td>
<td>---</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>.247</td>
<td>---</td>
</tr>
<tr>
<td>Cooperation</td>
<td>.289</td>
<td>---</td>
</tr>
<tr>
<td>Competence</td>
<td>-.206</td>
<td>---</td>
</tr>
<tr>
<td>Team Efficacy</td>
<td>---</td>
<td>.295</td>
</tr>
<tr>
<td>Coach’s Rating</td>
<td>---</td>
<td>.469</td>
</tr>
<tr>
<td>Multiple Correlation</td>
<td>.689</td>
<td>.595</td>
</tr>
</tbody>
</table>

Note: Order represents stepwise entry.
Discussion

The results of this study support the interdependent nature of soccer because results indicated that players in this investigation possessed a high degree of team and self-efficacy and were motivated in large part by cooperation. As the subsequent multiple correlations demonstrated, teams that were more successful reflected greater confidence in their future success as a team and as individuals. As Bandura (1986) has suggested, this relationship seems to be motivated by appropriate motivational sources. In this study, individual motives of cooperation and competence strengthen the relationship between prior success and team efficacy.

Self-Efficacy

The mean score for self-efficacy in this study was fairly high which was expected of athletes at this level of competition. McCauley and Gill (1983) and Gayton, Matthews, and Birchstead (1986) have suggested that the relationship between physical self-efficacy and performance is mediated by perceived physical ability. Athletes at the collegiate level of competition would be expected to have a high level of perceived physical ability in their sport.

In this study, only two variables produced a significant positive relationship with self-efficacy, the coach's rating of player ability and team efficacy. Bandura (1986) suggested that persuasion was a source of self-efficacy information, although it was not as strong of a source as the individual's past performance. In an interdependent sport, such as soccer, the coach's rating of player ability provides a stronger source of efficacy information to the players than the team's past performance, represented in this study by win/loss percentage. Lee (1988) has suggested that the weak positive relationship between self-efficacy and team performance may be due to
team sport athletes’ trouble in isolating causes of their own poor performance since it depends on the performances of collaborating others.

The literature discusses the positive relationship between past performance and self-efficacy. Feltz and Mungo (1983) found that the strongest influence on back-diving was the athlete’s previous performance. Likewise, Weinberg, Grove, and Jackson (1992) and Mueller (1992) found that a positive relationship existed between past performance and self-efficacy. However, in this study, there was no significant relationship between the past performance of the team and self-efficacy.

It was somewhat surprising that win/loss percentage was not a significant indicator of self-efficacy. Even in a team sport where outcomes are not directly attributed to one player's ability, the interdependent nature of soccer may provide efficacy information through vicarious experience. Vicarious experience has been identified as a source of efficacy information in studies by Gould and Weiss (1981) and Bandura (1986). In fact, team efficacy was more influential in explaining self-efficacy than past performance.

Team Efficacy

Win/loss percentage was the primary variable accounting for the degree of team efficacy, explaining more of the variance than self-efficacy. This is consistent with the literature and explains the high level of team efficacy in the two teams with the best win/loss percentage. Spink (1990) found that volleyball teams with high team efficacy finished significantly higher in the tournament than did teams with low team efficacy. Feltz, Bandura, Albrecht, and Corcoran (1988) found that stronger team efficacy led to better power play percentage. In the 1989 study, Feltz, Bandura, and Lirgg found that team efficacy correlated more highly with outcome measures than self-efficacy did.
The weak negative association between team efficacy and competition as a source of motivation is consistent with Butt’s (1987) motivational model. Individuals who’s achievement behavior is evaluated by comparisons with others would not lead to heightened team efficacy.

Motivation

Contrary to Bandura’s suggestion that the influence of self-efficacy on performance may be mediated by proper incentives, motivational sources did not have a bearing on self-efficacy. However, cooperation as a source of motivation did demonstrate a significant relationship with team efficacy. Bandura and Wood (1989) suggested that belief in one’s ability to mobilize the efforts of others in a joint endeavor promoted organizational attainments. Butt (1987) also suggested that the major theme of cooperation is the psychological perception of the environment as supportive and interdependent with the self, as well as invoking feelings of joy of participating and feeling part of the team. Cooperation as a primary source of individual motivation would contribute to a high level of team efficacy, as long as it didn’t conflict with information from past performance.

Bandura (1986), Spink (1990), and Lee (1988) have also suggested that team efficacy influences a team or group’s activity, effort expenditure, and commitment level. High team efficacy would lead to greater effort and commitment on the part of individual players. The findings of the present study suggest that this relationship may be reciprocal. As players are motivated by individual competence, and perceive the team to be highly effective as well, their self-efficacy increases. Competence as a source of motivation would allow for the acceptance of setbacks and failures as a realistic part of development (Butt, 1987) self-efficacy.
CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This study was conducted to investigate the relationship between past performance and sources of individual motivation on team and self-efficacy of collegiate soccer players. To examine this relationship, data was analyzed from 92 collegiate soccer players using modified team and self-efficacy questionnaires from Feltz, Bandura, and Lirgg (1989). Data from Butt's (1987) sport motivation scales and a coach's rating scale of player ability was also analyzed.

Conclusions

The results led the investigator to suggest the following conclusions:

1. Past performance (win/loss percentage) is the primary variable in predicting team efficacy.

2. In an interdependent sport like soccer, the coach's rating of player ability is a stronger source of self-efficacy than the soccer team's collective team efficacy.

3. In an interdependent sport like soccer, past performance of the team does not provide self-efficacy information.

4. There is a reciprocal relationship between team and self-efficacy in college soccer players.

5. Cooperation, as a source of motivation, has a positive relationship with soccer team efficacy, while competition has a weak but negative influence.
6. Individual sources of motivation do not significantly influence ratings of perceived self-efficacy in soccer.

Recommendations

Based on the results of this study, the following are recommendations for further research:

1. Data should be collected on a per game basis throughout the fall season. This should provide a more accurate representation of team and self-efficacy, coach's rating of player ability and past performance.

2. Other measures of individual performance should be observed to provide a more accurate representation of the relationship between past performance and self-efficacy of athletes in interdependent sports. For example, player statistics such as goals, assists, and shots on goal. Possible team statistics include goals against, goals for, and set play production.

3. A larger sample size should be observed. Greater sample size would allow for increased generalization to the target population of collegiate soccer. Greater sample size would also increase the power of the statistical interpretation.

4. Other interdependent sports should be observed to see if these findings are representative of all interdependent sports.

5. A more reliable measure of motivation should be established to better examine the relationship between individual sources of motivation and self-efficacy. In addition, other motivational variables such as persistence, commitment, and intensity should be observed.
Appendix A

Human Subjects Institutional Review Board Approval
Date: February 10, 1993
To: Kevin Demers
From: M. Michele Burnette, Chair
Re: HSIRB Project Number 93-02-03

This letter will serve as confirmation that your research project entitled "Investigation of past performance and sources of motivation on team and self-efficacy of collegiate soccer players" has been approved under the expedited category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the approval application.

You must seek reapproval for any changes in this design. You must also seek reapproval if the project extends beyond the termination date.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: February 10, 1994

xc: Brylinsky, HPER
Appendix B

Prospective Subjects Letter
Dear Player,

Please don't throw this away!! As a former soccer player I know how busy your schedule is. I need your help on a research project that I am doing to complete my graduate work. The following paragraphs will describe the project and at the bottom of the page is the date and time that I will be on your campus to collect my data.

We are asking you to participate in a research project that considers your sources of motivation to play soccer and how confident you are of your team's as well as your own soccer skills. We would like to see if these factors influence player and team performance.

If you choose to participate you will be asked to complete a questionnaire that will take approximately 30 minutes of your time. The questionnaire will ask you to think about why you play soccer and rate how skilled is the team you play on. This will take place on your campus. In order for us to see how this relates to past performance, your coach will provide a rating of your past season's skills and performance. Neither your coach nor any other player will see your responses to the questionnaire. You will only be identified by a code number. Once we have completed all of our testing and analysis, we will destroy all of the data. If we ever write a report or talk about the findings of this study, we will not be able to use your name or identify your school.

You should understand that your choice to participate will have no impact on your soccer team standing. Even if you give consent today, you will still be able to change your mind at any time during the study and withdraw your questionnaire from the data.

I look forward to meeting with you on the date and time listed below. I really appreciate your help with this study!!

Date: ___________________________ Time: ______________________

Place: ___________________________

Thank you for your time,

Kevin P. Demers

Kevin P. Demers
Appendix C

Questionnaire Packet
Dear Player,

We are asking you to participate in a research project that considers your sources of motivation to play soccer and how confident you are of your team's as well as your own soccer skills. We would like to see if these factors influence player and team performance.

If you choose to participate you will be asked to complete a questionnaire that will take approximately 30 minutes of your time. The questionnaire will ask you to think about why you play soccer and rate how skilled is the team you play on. This will take place on your campus. In order for us to see how this relates to past performance, your coach will provide a rating of your past season's skills and performance. Neither your coach nor any other player will see your responses to the questionnaire. You will only be identified by a code number. Once we have completed all of our testing and analysis, we will destroy all of the data. If we ever write a report or talk about the findings of this study, we will not be able to use your name or identify your school.

You should understand that your choice to participate will have no impact on your soccer team standing. Even if you give consent today, you will still be able to change your mind at any time during the study and withdraw your questionnaire from the data.

*******************************************************************************

By signing my name below, I give my permission to:

1. Complete the motivation and efficacy questionnaires.
2. Have my coach rate my skills and performance from last season.

Date: ______________ Name(print): _______________________________________

Signature: _______________________________________________________________
INDIVIDUAL EFFICACY QUESTIONS: Please circle the star closest to the statement that you believe best describes your soccer skills.

1. I believe that I will offensively outperform my opponent next year.

2. I believe that I will defensively outperform my opponent next year.

3. I believe that I can bounce back after performing poorly.

4. I believe that overall I will outperform my opponent.
TEAM EFFICACY QUESTIONS: Please circle the star closest to the statement that you believe best describes your team.

1. I believe that we can beat MOST of next year’s opponents.
2. I believe that we will win MOST 50/50 challenges.
3. I believe that we will outwork MOST of next year’s opponents.
4. I believe that we can bounce back from performing poorly.
5. I believe that we will be able to score on set plays.
6. I believe that we will be able to defend against set plays.
7. I believe that our goalkeeper will play well next year.
8. I believe that we can play well in adverse conditions (weather, field, etc.).
9. I have a high level of confidence in our coach.
SPORT MOTIVATION SCALE:

INSTRUCTIONS: Answer all the questions below by checking "yes" or "no". If the question is not applicable to your sport answer "no". If you feel the best answer is "sometimes" then check the "yes". Do not fill any questions.

During the past season while participating (training or competing) in SOCCER did you ever feel?

1. Listless or tired? yes no
2. Determined to come in first? yes no
3. Thrilled? yes no
4. Like helping someone else improve? yes no
5. Full of energy? yes no
6. Moody for no real reason? yes no
7. Like winning is very important to you? yes no
8. Like part of, or very friendly towards, the group (partner or team)? yes no
9. Impulsive? yes no
10. Irritated that someone did better than you? yes no
11. Happier than you have ever been? yes no
12. Guilty for not doing better? yes no
13. Powerful? yes no
14. Very nervous? yes no
15. Pleased because someone else did well? yes no
16. That you were performing your best yet? yes no
17. Like crying? yes no
18. Like telling someone off? yes no
19. More interested in your sport or activity than in anything else? yes no
20. Annoyed because you didn't win?  yes no
21. Like doing something to help the team or group?  yes no
22. That if anyone got in your way you could let them have it (push them, hit them)?  yes no
23. You had accomplished something (a skill) new to you?  yes no
24. Like others were getting more than they deserved (more than their fair share of attention and reward)?  yes no
25. Like congratulating someone because they had done well?  yes no
26. Angry at someone for taking your play or role?  yes no
27. You wanted to give up?  yes no
28. Trustworthy?  yes no
29. Like staying late to help someone else?  yes no
30. Bitter at someone else's success?  yes no
31. Excited to get on with the job?  yes no
32. Defensive?  yes no
33. Like you were improving yourself?  yes no
34. Like sharing the responsibility for a failure?  yes no
35. That out-performing others was the key to success?  yes no
36. Impatient with someone?  yes no
37. That no one understands how difficult your position is to play?  yes no
38. Confident about your performance?  yes no
39. That you and the people you play with will pull together?  yes no
40. Like others use you to get ahead?  yes no
41. Enraged?  yes no
<table>
<thead>
<tr>
<th></th>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>42</td>
<td>That you are really a failure?</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>43</td>
<td>That you would like to know more about your sport, skill or activity?</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>44</td>
<td>That everyone seems to help each other?</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>45</td>
<td>That you should be in charge?</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>46</td>
<td>Vicious?</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>47</td>
<td>Lost and confused?</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>48</td>
<td>Pleased with your abilities?</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>49</td>
<td>That most of the team have common goals?</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>50</td>
<td>Better than anyone else?</td>
<td>yes</td>
<td>no</td>
</tr>
</tbody>
</table>
Appendix D

Coach's Rating Scale
COACH'S RATING SCALE: Please circle the star closest to the statement that best describes this player's soccer skills.

Code #: ____________________________

Position: ____________________________

How many years has this player been on the varsity? _______

How many halves did this player compete in during the 1992 season? _______

1. He **offensively** outperformed his opponents. * * * * *
   He did **not** offensively outperform his opponents.

2. He **defensively** outperformed his opponents. * * * * *
   He did **not** defensively outperform his opponents.

3. He was **able to bounce back after performing poorly.** * * * *
   He was **not able to bounce back after performing poorly.**

4. Overall, he **outperformed his opponents.** * * * *
   Overall, he **did not outperform his opponents.**


