TRUST IN LEADERSHIP IN SPORT:
ITS ANTECEDENTS AND ITS CONSEQUENCES

DISSERTATION

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By

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ABSTRACT

Trust in leadership is said to be related to a number of important outcome variables, including commitment, cooperation, and job performance (see Dirks & Ferrin, 2002). As these consequences are relevant to athletic teams, the primary purposes of this study were to (a) examine the factors that influence an athlete's trust in the coach and (b) examine the consequences of the trust in the coach. Based on the literature on trust, a theoretical model was proposed to predict that an athlete's trust in the coach would be influenced by characteristics of the coach (i.e., perceived ability, benevolence, justice, and integrity). The athlete's propensity to trust, which reflects the athlete's general tendency to rely on others words and behaviors, was posited to moderate the effects of the perceived coach's characteristics on the athlete's trust in the coach. Three primary outcome variables (commitment to the coach, willingness to cooperate, and performance) were included in the model as the consequences of an athlete’s trust in the coach. College students (N=230) registered in sport club teams at a large university in the Mid-West participated in the study. Two structural equation models involving (a) antecedents of an athlete’s trust in the coach and (b) consequences of an athlete’s trust in the coach were tested employing structural equation modeling technique. Results showed that the two
models had a fair fit with the data. The proposed characteristics of the coach—perceived ability, benevolence, justice, and integrity—explained 52% of the variance in an athlete’s trust in the coach. An athlete’s trust in the coach, in turn, explained 77% of the variance in the athlete’s commitment to the coach, and 67% of the variance in the athlete’s willingness to cooperate with the coach. An athlete’s commitment to the coach and willingness to cooperate with the coach explained 54% of the variance in perceived performance. All paths except the one linking perceived integrity to an athlete’s trust were significant. The moderator effects of propensity to trust were tested by regression procedures described by Cohen and Cohen (1983) and recommended by Baron and Kenny (1986). Propensity to trust was found to moderate the effects of perceived ability, benevolence, and justice on an athlete’s trust in the coach. The results of this study indicate that an athlete’s trust in the coach (a) is influenced by the coach’s characteristics and the athlete’s propensity to trust and (b) has a direct effect on the athlete’s commitment to and willingness to cooperate with the coach as well as a mediational effect on the athlete’s perceived performance.
Dedicated to the two women who have sacrificed so much for me:
my mother, Xiaoyun Ao, and
my wife, Bijing Li.
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TABLE OF CONTENTS

Abstract ........................................................................................................................................ ii
Dedication ..................................................................................................................................... iv
Acknowledgments ...................................................................................................................... v
Vitae ............................................................................................................................................. vi
List of Tables ............................................................................................................................ x
List of Figures ............................................................................................................................ xii

Chapters:

1. Introduction ........................................................................................................................... 1
   Research on Sport Leadership ............................................................................................... 2
   Significance of Trust in Leadership ....................................................................................... 5
   Trust in Leadership in Sport ................................................................................................. 7
   A Proposed Model of Trust in Leadership in Athletic Teams .......................................... 10
      Perceived Characteristics ................................................................................................. 10
         Ability ............................................................................................................................... 11
         Benevolence ................................................................................................................... 12
         Justice ............................................................................................................................. 13
      Integrity .............................................................................................................................. 14
      Propensity to Trust .......................................................................................................... 15
      Trust, Willingness to Cooperate, and Perceived Performance ..................................... 17
      Trust, Commitment to the Coach, and Perceived Performance .................................. 19
   Operational Definitions ....................................................................................................... 21
   Limitations ............................................................................................................................ 22
   Delimitations ......................................................................................................................... 22

2. Review of The Literature ..................................................................................................... 24
   Review of Research on Sport Leadership ............................................................................. 25
Antecedents of Trust in a Coach ............................................................ 124  
Perceived Ability and Trust in a Coach .............................................. 126  
Perceived Benevolence and Trust in a Coach .......................... 126  
Perceived Justice and Trust in a Coach ...................... 127  
Perceived Integrity and Trust in a Coach ........................ 128  
Propensity to Trust as a Moderator ........................................ 129  
Consequences of Trust in a Coach ............................................. 131  
Trust, Willingness to Cooperate, and Perceived Performance .. 133  
Trust, Commitment, and Perceived Performance .............. 134  
Limitations and Directions for Future Research ...................... 135  
Practical Implications ..................................................................... 139  

List of References...................................................................................... 141  

Appendices

A. Final Questionnaire .............................................................................. 156  
B. Questionnaire for Expert Panel Study .............................................. 163  

ix
<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Definitions of trust</td>
<td>43</td>
</tr>
<tr>
<td>4.1</td>
<td>Demergraphic characteristics of the sample</td>
<td>87</td>
</tr>
<tr>
<td>4.2</td>
<td>Variable means, Std. deviation, and correlations</td>
<td>89</td>
</tr>
<tr>
<td>4.3</td>
<td>Model Goodness-of-Fit indicators for measures</td>
<td>92</td>
</tr>
<tr>
<td>4.4</td>
<td>Standardized regression weights of each item of all the measures</td>
<td>99</td>
</tr>
<tr>
<td>4.5</td>
<td>Reliability estimates for all multi-items variables</td>
<td>102</td>
</tr>
<tr>
<td>4.6</td>
<td>Covariances and correlations of the antecedents of trust model</td>
<td>106</td>
</tr>
<tr>
<td>4.7</td>
<td>Variances of the antecedents of trust model</td>
<td>107</td>
</tr>
<tr>
<td>4.8</td>
<td>Regression Weights and standardized regression weights for the model of</td>
<td>108</td>
</tr>
<tr>
<td></td>
<td>antecedents of Trust</td>
<td></td>
</tr>
<tr>
<td>4.9</td>
<td>Propensity to trust as a moderator of Perceived ability</td>
<td>111</td>
</tr>
<tr>
<td>4.10</td>
<td>Propensity to trust as a moderator of Perceived benevolence</td>
<td>112</td>
</tr>
<tr>
<td>4.11</td>
<td>Propensity to trust as a moderator of Perceived Justice</td>
<td>113</td>
</tr>
<tr>
<td>4.12</td>
<td>Covariances and correlations of the consequences of trust model</td>
<td>115</td>
</tr>
<tr>
<td>4.13</td>
<td>Variances of the consequences of trust model</td>
<td>116</td>
</tr>
</tbody>
</table>
4.14 Regression weights and standardized regression weights for the consequences of trust model .......................... 117
4.15 Squared multiple correlations estimate for the consequences of trust model ..... 118
4.16 Standardized Direct and Indirect Effects ......................................................................................... 120
### LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>A proposed framework of trust in leadership in athletic teams.</td>
<td>23</td>
</tr>
<tr>
<td>2.1</td>
<td>An integrated model of organizational trust</td>
<td>38</td>
</tr>
<tr>
<td>4.1</td>
<td>The antecedents of trust measurement model</td>
<td>93</td>
</tr>
<tr>
<td>4.2</td>
<td>Propensity to trust measurement model</td>
<td>94</td>
</tr>
<tr>
<td>4.3</td>
<td>Trust in the coach measurement model</td>
<td>94</td>
</tr>
<tr>
<td>4.4</td>
<td>Willingness to cooperate measurement model</td>
<td>96</td>
</tr>
<tr>
<td>4.5</td>
<td>Commitment to the coach measurement model</td>
<td>96</td>
</tr>
<tr>
<td>4.6</td>
<td>Perceived performance measurement model</td>
<td>97</td>
</tr>
<tr>
<td>4.7</td>
<td>Structural equation model of Antecedents of trust</td>
<td>105</td>
</tr>
<tr>
<td>4.8</td>
<td>The consequences of trust model</td>
<td>114</td>
</tr>
</tbody>
</table>
CHAPTER 1

INTRODUCTION

Sport has been seeing growing importance and popularity in recent years around the world, particularly in the United States of America. For example, the sport industry was ranked the eleventh largest of all U. S. industry groups with a market value at $152 billion in 1995 (Archives, The Business of Sports), however, by the end of 1999 the sport industry was estimated to be worth $213 billion and the sixth largest of all U. S. industry groups, according to Street & Smith’s SportsBusiness Journal. In addition to the economic impact, sport has had considerable social impact as reflected in other measures such as attendance, media coverage, employment, and the global market (Shank, 1999).

All of this growth in popularity of sports is based on the excellence demonstrated by top teams in various sports, and the associated entertainment value. As Chelladurai (2001), spectator sport is an offshoot of the pursuit of excellence (a participant activity) at various levels. In sum, the driving force behind spectator sport is represented by all the athletic teams pursuing excellence in their respective sports at their own levels of competition. In this sense, the performance and growth of many of the sport
organizations as well as that of the sport industry itself largely depends on the performance of athletic teams. It is not surprising then that the athletic teams have attracted the attention of many sport researchers as well as practitioners. Exploring how athletic teams function and/or how to improve athletic team performance have been a recurring research theme for sport researchers (e.g., Chelladurai, 1978; Chelladurai, 1993; Chelladurai & Doherty, 1998; Serpa, Pataco, & Santos, 1991; Smith & Smoll, 1990).

Research on Sport Leadership

One of the important areas of research in athletic teams is on sport leadership (e.g., Chelladurai, 1978; Chelladurai & Carron, 1978; Smith, smoll, & Curtis, 1979). Current research on sport leadership has followed three different lines of approaches (Chelladurai, 1993). The first line of research is based on the Multidimensional Model of Leadership (Chelladurai, 1978; Chelladurai & Carron, 1978) and the Leadership Scale for Sports (Lss; Chelladurai, 1978; Chelladurai & Carron, 1981; Chelladurai & Saleh, 1978, 1980). This line of research focuses on the leader, the member, and the situation in which they are embedded. In the multidimensional model of leadership, group performance and member satisfaction are proposed to be a function of the congruence among three states of leader behaviors—required, preferred, and actual. Those three states of leader behaviors are influenced by the characteristics of the situation, the leader, and the members. Empirical studies based on the multidimensional model have focused on individual differences and situational factors that affect the perceived and/or preferred leader behavior, and consequences of leadership (e.g., Chelladurai, 1978; Chelladurai &
The second line of research on sport leadership follows the work by Smith, Smoll, and their colleagues (e.g., Smith, Smoll, & Curtis, 1979; Smith, Smoll, & Hunt, 1977; Smoll, Smith, Curtis, & Hunt, 1978), who proposed a Mediational Model of Leadership based on the Coaching Behavior Assessment System (CBAS). The basic approach in this line of research was to “assess relationships between coaches’ behaviors and their players’ evaluative reactions, train the coaches to improve their behaviors, and evaluate the effects of these changes on a variety of player outcome measures” (Chelladurai, 1993). Their original and fundamental model included three elements: coach behaviors, player perception and recall, and player’s evaluative reactions. According to the model, player’s attitudes toward their coach and their sport experience are mediated by their perception and recall of the coaches’ behaviors. The three basic elements of coach behaviors, player perception and recall, and player’s evaluative reactions are affected by three sets of factors: coach individual difference variables, player individual difference variables, and situational factors. Empirical studies based on CBAS have focused on the impact of coaches’ behaviors on players and the training effects on coach behavior (e.g., Smith et al., 1979; Smith et al., 1978; Smith, Zane, Smoll, & Coppel, 1983).

The third lines of research deals with the approach initiated by Chelladurai and Haggerty (1978), who proposed a normative model of decision styles in coaching. The model consisted of three decision styles. The autocratic decision style is when the final decision is actually made by the coach, whereas the delegative decision style is when the
coach delegates the authority to make the decision to one or more members; the participative decision style is when the actual decision is made by the group including the coach. The autocratic decisions style and delegative decision style can be viewed as two extremes on a continuum, and participative decision in the middle. As a coach’s decision style moves from autocratic to delegative, the influence of the coach is reduced. According to the model, the use of one of the above decision style in solving a problem is contingent upon the configuration of the attributes of that problem. The research based on this approach was centered on the extent of participation in decision making preferred by athletes and/or allowed by coaches in various situations (e.g., Chelladurai & Arnott, 1985; Chelladurai, Haggerty, & Baxter, 1989; Gordon, 1988).

From one perspective, the above studies are comprehensive in the sense they have included characteristics of the members, the leader, and the situation in which both the leader and members are imbedded. However, a significant element of leader-member relations has been neglected by previous research. I refer to the trust that develops between an athlete and coach. The lengthy duration and intensity of contact between an athlete and his or her coach is unparalleled conventional supervisor-subordinate relationships. Given this pattern of interactions, it would be expected that both the leader and member would trust each other and the good intentions behind their behaviors. It would be particularly necessary that the athletes have a high level of trust in the leader.
However, the extant research on sport leadership has not explicitly included trust as a critical variable. The three lines of research reviewed above can be more productive if trust in the leader is included in their framework. For example, in the Multidimensional Model of Leadership (Chelladurai, 1978; Chelladurai & Carron, 1978), the three states of leader behavior—required, preferred, and actual—must include behaviors that generate members’ trust in the leader. Similarly, in the normative model (Chelladurai & Haggerty, 1978), the level of athletes’ trust in coaches can be important antecedent of athletes’ preference in coaches’ decision style choices. In the following section, I will discuss the significance of trust in leadership.

**Significance of Trust in Leadership**

Researchers have long recognized the significance of trust in leadership for at least four decades (e.g., Argyris, 1962; Liker, 1967; Mellinger, 1956). Trust can be defined as "a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another" (Rousseau, Sitkin, Burt, Camerer, 1998, p. 395). Trust is an essential element underpinning all social exchange relations (Blau, 1968; Barber, 1983); it is the foundation of relationship (Michalos, 1990) because it affects the degree of personal security in which interpersonal relationships are allowed to develop (Shapiro, 1987). Leadership has three common features, (a) a behavioral process, (b) interpersonal relationship, and (c) a leader’s intent to influencing and motivating members (Chelladurai, 2001). These three features give rise to the importance of trust in leaders. If a leader’s behavior fails to generate trust in his/her members, he/she is unlikely to establish a productive interpersonal relation with
the members and to exert his/her influence on and motivate the members because without trust, people tend to act defensively and reject others’ influences on them (Zand, 1972). This is why trust in leadership is a major element in several leadership theories in the literature of organizational science. For example, transformational and charismatic leaders instill trust in their members (Podsakoff, MacKenzie, Moorman, & Fetter, 1990); trust is a key concept in leader-member exchange theory (Schriesheim, Castro, & Cogliser, 1999), member’s trust in leaders generates cooperative behaviors (McAllister, 1995), and trust in leadership is positively related to performance (Dirks, 2000).

The importance of trust in leadership is also evidenced by the volume of published articles including the concept across multiple disciplines in other literature. As Dirks and Ferrin (2002) observed trust in leadership is “found in the literatures of job attitudes, teams, communication, justice, psychological contracts, organizational relationships, and conflict management, and across the disciplines of organizational psychology, management, public administration, organizational communication, and education, among others” (p. 611).

Findings on trust from organization science literature may shed some light on our understanding of trust in leadership as well as the outcomes of such trust in athletic teams. However, those findings should be taken with caution. Although athletic teams as a social entity are often considered to be one type of organizations with all the attributes of an organization, they are unique in many aspects (Chelladurai, 2001). First, as Riemer and Chelladurai (1998) observed that in an athletic team, athletes have volunteered to be a member of that team, whereas in organizations, employees are paid to
work there. While employees may have to work under a leadership whom he/she does not trust because of economic concerns, there is no such pressure for an athlete and he/she can move to another team, or stop participating in the sport completely when facing the same situation. The second difference between athletic teams and organizations is the public record of performances of the athletic teams (Ball, 1975). The records of performances of most business organizations are classified. The third difference is the media exposure. Given the appealing nature of sport to general public, athletic teams get a lot of media exposure. They often compete in front of hundreds and thousands of spectators and TV audiences. Finally, athletic teams are unique in terms of how performance is evaluated. Athletic teams are often evaluated by win/loss record, which is unreliable because factors such as the wrong official call and the competitiveness of the opponent may come into play (Courneya & Chelladurai, 1991).

Because of these differences, findings on trust in leadership from organization sciences literature cannot just be generalized to coach-athlete relations. Hence, there is a vital need to develop studies specific to athletic teams. In the following section, I will discuss research on trust in leadership in athletic teams.

**Trust in Leadership in Sport**

In contrast to trust as a research theme at the “center stage of contemporary organizational theory and research” (Kramer, 1999, p. 594), few studies have been carried out in the context of sport. Among the few, most noteworthy is the study conducted by Dirks (2000), an organizational scientist. Dirks empirically tested the relationship between trust in leadership and team performance with data from Division I
and Division III NCAA basketball teams. What Dirks found is that athletes’ trust in leadership had a significant effect on team performance. As evidenced by the results in the study, the two teams reporting the highest levels of trust in their coach early in the season excelled most of their rivals. In contrast, the team with the lowest level of trust in its coach won approximately only one out of ten of its conference games. Dirks’ findings indicate that the influence of trust on team performance “are not only important theoretically but also substantial in practical terms” (p. 1008).

Dirks also conducted interviews with some of the coaches and players to investigated the relationship between trust and team performance. His interviews suggest that trust in the coach resulted in better team performance because the players were more likely to accept the decisions of their coach and follow their coach's directives. For example, one coach explained that trust "allows players to be willing to accept their role, so that they can do what it takes to win" (p. 1009). Similarly, a player mentioned that, once trust in coach was established, "the progress we made increased tremendously because we were no longer asking questions or were apprehensive. Instead, we were buying in and believing that if we worked our hardest, we were going to get there" (p. 1009). Dirks' findings highlight the importance of trust in leadership in athletic teams, which is consistent with organizational scientist Likert (1967) who described trust by members of a leadership team as an important attribute in high performance organizations.
However, as an organizational scientist, Dirks’ interest was in testing the relationship between trust in leadership and team performance. He did not investigate what factors influenced an athletes’ trust in a coach, nor did the other studies on trust in sport settings. Besides, the performance was measured by the ratio of wins to total games in a season in the study. As Courneya and Chelladurai (1991) have noted that the win/loss measures of performance are contaminated by several external factors such as random chance, opponent’s performance, and referee’s decisions. Consequently they may not be responsive to psychological interventions including trust in leadership. Thus, it becomes necessary to select those performance measures that are devoid of such contamination to investigate the effects of trust in sport leadership.

In summary, given the important role of athletic teams in promoting and popularizing sport, the performance of athletic teams becomes a critical focus for continued research. Athletic teams are characterized by intense interactions between the coach of a team and its members. Thus, a member’s trust in a leader is a contributing factor in performance improvements. Integrating theories and studies from organization science and sport psychology literature, the current study presents a conceptual framework to describe the influence of trust in leadership on athletic team outcomes, and the relationships between the antecedent and contextual factors (Please refer to Figure 1.1). In the next section, the proposed conceptual framework is presented and described. The hypothesized relationships among the concepts in the framework are explained in detail. A testable hypothesis is presented following each relationship discussed.
The proposed model of trust in leadership in athletic teams, which is presented in Figure 1, is intended to explain how an athlete’s trust in a coach is formed and how this trust from a member (i.e., athlete) towards leader (i.e., coach) indirectly influences performance of the members through the athlete’s commitment to and willingness to cooperate with the coach. The framework postulates that an athlete’s trust in a coach is influenced by the perceived characteristics of the coach. The athlete’s propensity to trust moderates the influence of the perceived characteristics of the coach on the athlete’s trust in the coach. The perceived personal characteristics of the coach include perceived ability, perceived benevolence, perceived integrity, and perceived justice. The model describes that the athlete’s trust in the coach influences the athlete’s commitment to the coach and willingness to cooperate with the coach; and commitment to the coach and willingness to cooperate, in turn, affect the athlete’s perceived performance. In the following, each variable and the postulated relationship will be discussed.

Perceived Characteristics

Trust relationship includes at least two parties: trustor (the one who gives trust) and trustee (one who is trusted). The perceived characteristics of a trustee are viewed as important antecedents to trust (Butler, 1991). This is because trust is derived from the expectations of how the trustee will behave (Good, 1988). Those expectations, however, are based on the perceived characteristics of the specific trustee. For example, Lieberman (1981) noted that perception of a professional’s competence and integrity were the basis for trust to develop in fiduciary relationships. Molm and Takahashi (2000)
found that behaviors signaling the trustee's trustworthiness had significant impact on trust. These characteristics reflect the trustworthiness of a trustee, which will lead the trustee to be more or less trusted. Therefore, those characteristics are not trust per se, but antecedents that help build the foundation for the development of trust.

While there is an agreement on the perceived characteristics as important antecedents to trust (e.g., Mayer, James, Davis, & Schoorman, 1995; Ring & Van de Yen, 1992), there are disagreements on which characteristics and conditions that influence trust. For example, Butler (1991) identified ten conditions that could produce trust in a supervisor among subordinates (i.e., availability, competence, consistency, discreetness, fairness, integrity, loyalty, openness, promise fulfillment, and receptivity). In contrast, Strickland (1958) and Solomon (1960) suggested that benevolence was the only trustee characteristic that was responsible for trust. Johnson-George and Swap (1982), on the other hand, suggested that reliability was the paramount characteristic. More recently, based on an extensive literature review, Mayer et al. (1995) suggested that three characteristics were the antecedents of the perceived trustworthiness: ability, benevolence, and integrity.

**Ability.** Mayer et al. defined ability as “group of skills, competencies, and characteristics that enable a party to have influence within some specific domain” (p. 717). They explained that the domain of the ability was specific because the trustee might be good at several areas but just so-so in other areas. Their view that ability is an important element of perceived characteristics is consistent with many of previous studies (e.g., Cook & Wall, 1980; Deutsch, 1960; Sitkin & Roth, 1993). Their conception of
ability is also similar to a number of constructs, though, given different names. For example, as mentioned above, Butler (1991) labeled a similar construct as competence and Hovland, Janis, and Kelley (1953) named it expertise. Concurring with Mayer et al. and also consistent with previous studies, I incorporated the perceived ability of a coach as one perceived characteristic that would influence an athlete’s trust in coach. Therefore, I hypothesized,

**Hypothesis 1:** An athlete’s perception of a coach’s ability has a positive and unique effect on the athlete’s trust in the coach.

**Benevolence.** Another characteristic that Mayer and his colleagues identified that influence perceived trustworthiness was benevolence. “Benevolence is the extent to which a trustee is believed to want to do good to the trustor, aside from an egocentric profit motive” (Mayer, et al., 1995, p. 718). Mayer et al. explained that benevolence implied some specific attachment of a trustee to the trustor and was “the perception of a positive orientation of the trustee toward the trustor” (p. 719). Their conceptualization of perceived benevolence as an essential influence of trust is consistent with a number of authors who have used the word benevolence as an antecedent of trust (e.g., Larzelere & Huston, 1980; Solomon, 1960; Strickland, 1958). Applying the above reasoning to the athlete and coach relationship, the perceived benevolence of a coach by an athlete is the extent to which the athlete believes that the coach wants to do good to him/her, aside from the coach’s own benefits. Thus, the higher level of perceived benevolence of the coach leads to higher level of trust in the coach. Therefore, I hypothesized,
Hypothesis 2: An athlete’s perception of a coach’s benevolence has a positive and unique effect on the athlete’s trust in the coach.

**Justice.** Justice refers to the role of fairness (Greenberg, 1987). People usually consider the nature of their treatment by others as a determinant of justice (Greenberg, 1996). In the leader-member relations, perception of leader’s justice was found to affect trust in the leader and the system as a whole (Pillai, Schriesheim, & Williams, 1999). It follows that in order to gain trust from the members, a leader must be perceived as providing just treatment to members.

Justice can be typically grouped into three approaches “in terms of the outcomes accruing to individuals or units, the decision processes by which the outcomes to different parties were determined, and the way the processes and outcomes were communicated to individuals or groups” (Chelladurai, 1999, p. 214): (a) distributive justice, which refers to “the typical metric for judging the fairness of transactional contracts and economic exchanges” (Konovsky & Pugh, 1994, p. 658), (b) procedural justice, which refers to the fairness of the procedures used to determine those outcomes (Folger & Greenberg, 1985), and (c) interactional justice “addresses the manner in which the decisions are communicated” (Chelladurai, 1999, p. 214). Evidence supports that member’s perceived procedural justice of a leader affects trust in the leader. For example, Folger and Konovsky (1989) found perception of fair procedures influenced members’ trust in the leader. In contrast to procedural justice, distributive justice is based on the comparison of what one pays and what one gains. For example, athletes will weigh the feedback from a coach of the athletes’ performance in form of punishment and reward. If
they feel the feedback is fair, they are more likely to trust the coach and vice versa.

Research has shown that justice is highly correlated with trust. For example, Alexander and Ruderman (1987) found a positive relationship between perceptions of both procedural justice and distributive justice and trust in upper-level management. Similar results were obtained by Lind and Tyler (1988). Butler (1991) found that fairness was one of the ten conditions that produce trust in leadership. Given the above argument, inclusion of perceived justice as a separated antecedent of trustworthiness is well grounded. Therefore, I hypothesized,

*Hypothesis 3:* An athlete’s perception of a coach’s justice has a positive and unique effect on the athlete’s trust in the coach.

**Integrity.** Mayer et al (1995) identified perceived integrity of a trustee as an antecedent of trust. They explained that perceived integrity resulted from “the trustor’s perception that the trustee adheres to a set of principles that the trustor finds acceptable” (p. 719). In their conceptualization of integrity, both the adherence to and acceptability of the set of principles are important because personal integrity is defined by the set of principles that one follows. If a trustor does not accept the set of principles, the trustee will not be viewed as having integrity. However, Mayer et al. implied that consistency, fairness, and congruity could all be included into integrity. This is in contrast to Butler’s (1991) definition of integrity as honesty and truthfulness and is independent from conditions such as fairness. Similarly, Hart, Capps, Cangemi, and Caillouet (1986) also viewed integrity and fairness as separate constructs. While questionable about the soundness of the rationale that underpins the inclusion of fairness, consistency, and
congruity all into the term integrity, I concur with those authors who separate integrity and fairness. Therefore, I adopted Butler’s view of integrity as honesty and truthfulness in my model and hypothesized,

*Hypothesis 4:* An athlete’s perception of a coach’s integrity has a positive and unique effect on the athlete’s trust in the coach.

*Propensity to Trust*

Researchers taking a personal characteristic perspective on trust view trust as a result of both the characteristics of a trustee and that of a trustor. For example, Driscoll (1978) and C. L. Scott (1980) conceptualized that trust was consisted of both a global component, which relates to a trustor’s general willingness to trust others, and a specific component, which pertains to the trustworthiness of a trustee. Similarly, Zaheer, McEvily, and Perrone (1998) distinguished between relational and dispositional trust and pointed out that dispositional trust was an individual trait reflecting the level of personal tendency to trusting other people in general. Relational trust relates to the level of characteristics of a trustee perceived by a trustor. I discussed above the characteristics of a trustee. In the following, I will discuss the global component of trust, which Mayer et al (1995) labeled it as a trustor’s propensity to trust.

The concept of propensity to trust is similar to Rotter’s (1980) general trust, which is a trustee’s “default” expectation of in what degree other people can be trusted. Rotter (1980) suggested that individuals possessed a certain level of general trust, which was formed by experiences in childhood and adulthood, personality, and cultural background (Deutsch, 1958; Rotter, 1967; Zand 1997). There is some empirical
evidence to support this view. For example, Levine, Vilena, Altman, and Nadien (1976) found that rural area residents had a higher propensity to trust others than city residents.

In the proposed model propensity to trust reflects the intrinsic tendencies of a trustor toward trusting others when no specific information is provided concerning a trustee. Propensity to trust affects how a trustor perceives the behaviors of others. If propensity is high, then an athlete will be more likely to perceive his/her coach as behaving in a trustworthy manner. Likewise, if propensity to trust is low, the athlete will be more likely to perceive his/her coach as behaving in an untrustworthy manner. Thus, it is apparent that propensity to trust can influence an athlete’s perceived characteristics of a coach. Besides, Mayer et al (1995) viewed propensity to trust as a personal trait that was stable across different situations and suggested that propensity to trust influenced the development of trust and subsequent trust evaluations independent of the characteristics of the trustee. Based on the discussion above, I hypothesized,

\textit{Hypothesis 5.1:} An athlete’s propensity to trust moderates the effects of the perceived ability of a coach on the athlete’s trust in the coach.

\textit{Hypothesis 5.2:} An athlete’s propensity to trust moderates the effects of the perceived benevolence of a coach on the athlete’s trust in the coach.

\textit{Hypothesis 5.3:} An athlete’s propensity to trust moderates the effects of the perceived justice of a coach on the athlete’s trust in the coach.

\textit{Hypothesis 5.4:} An athlete’s propensity to trust moderates the effects of the perceived integrity of a coach on the athlete’s trust in the coach.
So far, I focused on important antecedents of an athlete’s trust in a coach (i.e., perceived characteristics of the coach and the athlete’s propensity to trust). In the following section, I will describe the hypothesized relationships between an athlete’s trust in a coach and relevant outcome variables (i.e., the athlete’s commitment to the coach, willingness to cooperate, and the athlete’s perceived performance).

**Trust, Willingness to Cooperate, and Perceived Performance**

Researchers have widely acknowledged that trust can lead to cooperative behavior among individuals, groups, and organizations (e.g.; Cummings & Bromiley, 1996; Gambetta, 1988; Good, 1988; Mayer et al, 1995; McAllister, 1995). Roberts and O'Reilly (1974) suggested that high level of trust in an organizational setting might improve cooperation in terms of better communication and knowledge exchange. They also found that members were more likely to both withhold and distort information when trust decreased (Roberts & O’Reilly, 1974). Consistent with them, more recent studies support the ideas that trust influences cooperation through communication and knowledge exchange. For example, Huemer, Yon Krogh, and Roos (1998) suggested, "decisions to exchange in knowledge under certain circumstances are based on trust" (p. 124). Similarly, Jones and George (1999) suggested that under trust, individuals were more likely to freely exchange knowledge and information, seek help from each other, sacrifice personal needs and ego, and get highly involved in the work. All of these, they suggested, would affect cooperation.

In leader-member relations, trust is an important determinant of member’s cooperation with the leader. Trust was found to moderate the relationship between
having power and being influential (Frost & Moussavi, 1992). As trust decreases, so does the impact of instruction conveyed by the leader (IIGen, Fisher, & Taylor, 1979). Put another way, if members trust their leader, they are more likely to accept their leader’s instruction and be willing to cooperate with the leader by following the instruction.

While trust in coach elicits athletes’ cooperation with the coach, the cooperation, in turn, will improve the athletes’ performance. As Zand (1972) suggested that in low-trust groups, cooperation and performance was low because “low-trust interpersonal relationships interfere with and distort perceptions of the problem. Energy and creativity are diverted from finding comprehensive, realistic solutions, and members use the problem as an instrument to minimize their vulnerability” (p. 238). Similarly, Dirks (2000) noted, “Given little trust in the leader, team members are unlikely to be willing to sacrifice their interests for the team or its goals in a context of uncertainty” (p.1005). As a result, job performance suffers. In contrast, when trust level is high, members are more likely to get involved in communication and knowledge exchange with the leader and therefore, mitigate the existence of imperfect information (Giddens, 1990). The more information the members know about the leader’s vision, goals and decisions, the more likely they are to accept them and work hard to achieve them. Therefore, trust by followers of a leadership team is described as an important attribute in high performance organizations (Likert, 1961) and is usually reciprocated by the member's outstanding performance (Lipman-Blumen, 1996).
Organizational studies show that cooperation is positively related to performance. For example, Campion, Papper, and Medsker (1996) found that cooperation was related to manager judgments of team performance. Seers, Petty, and Cashman (1995) found that cooperation was positively related to efficiency. These findings suggest that cooperation has a positive effect on performance and that this effect is robust across several different criteria of performance. Supported by those findings, the following hypotheses were proposed

_Hypothesis 6:_ An athlete’s trust in a coach has a positive and unique effect on the athlete’s willingness to cooperate with the coach.

_Hypothesis 7:_ An athlete’s willingness to cooperate with a coach has a positive and unique effect on the athlete’s perceived performance.

**Trust, Commitment to a Coach, and Perceived Performance**

As an important focus of commitment, the concept of commitment to a supervisor has drawn increasing attention from researchers in recent years. Becker, Billings, Eveleth, and Gilbert (1996) suggested that identification with and internalization of the goal and value of a supervisor should be used to form the bases of commitment to the supervisor. Actually, two of the four scales they developed to measure overall commitment to a supervisor are supervisor-related identification and supervisor-related internalization (the other two are organizational identification and organizational internalization).

Trust has been linked to the sense of identity with the authority (Tyler & Degoey, 1996) and internalization of the goal and vision of a supervisor (Zand, 1972) in leader-
member relations. It is therefore expected that members with a higher level of trust in a leader will be more likely to identify with and internalize of the leader, consequently, a higher level of commitment to the leader. There is some empirical evidence to support the idea that members’ trust in a leader will reinforce members’ commitment to the leader and the organization. For example, Zand (1972) found that groups with high trust saw themselves as closer and more of a team and had less desire to leave their group to join another.

Commitment has been found to be an important predictor of job performance (e.g. Liou, 1995; Becker et al., 1996). Becker et al. (1996) found in their study that commitment to leaders was more strongly associated with performance than was commitment to organizations. Since monitoring and improving member’s performance is an explicit function of a leader (Yukl, 1989), a leader will be more likely to promote performance norms than will work groups (Becker et al., 1996). Thus, higher level of commitment to the leader means a higher acceptance of the performance norms and consequently, better performance. Hence, the following hypotheses were proposed:

_Hypothesis 8:_ An athlete’s trust in a coach has a positive and unique effect on the athlete’s commitment to the coach.

_Hypothesis 9:_ An athlete’s commitment to a coach has a positive and unique effect on the athlete’s perceived performance.
**Operational Definitions**

*Ability*—ability refers to the perceived skills, competencies, and characteristics of the coach that enable the coach to performance his/her work.

*Benevolence*—benevolence refers to the extent to which the coach is believed to want to do good to the athlete, aside from an egocentric profit motive.

*Integrity*—integrity refers to the extent to which the coach is believed to adhere to a set of principles that the athlete finds acceptable.

*Justice*—justice refers to the perceived fairness of the coach.

*Athlete’s trust in coach*—athlete’s trust in coach refers to an athlete’s psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of the coach.

*Commitment to the coach*—commitment to the coach refers to the strength of an athlete's internalization of and identification with the coach. It is manifested by: (a) a strong belief in and acceptance of the coach's goals and values; (b) a willingness to exert considerable effort on behalf of the coach; and (c) a strong desire to maintain the athlete-coach relation.

*Willingness to cooperate*—willingness to cooperate refers to the extent to which an athlete feels like to communicate with the coach, to accept the coach’s decision, and to make changes based on the coach’s feedback of his/her performance.

*Perceived Performance*—perceived performance refers to the extent to which an athlete is satisfied with his/her individual performance and the team performance.
Limitations

There are several limitations of this study. First of all, the results may suggest possible causal relationship between some variables. However, this study is not a true experimental design. Thus causal relationship cannot be verified. The results should be treated with caution. There is possibility that the results are caused by other variables. Second, all the data collected are based on self-reports. Thus, the accuracy of the data may be contaminated by social desired bias. Third, samples are not selected by random sampling. Therefore, the generalizability of the findings is limited.

Delimitations

This study was delimited to examine only college student athletes registered in sport clubs. Furthermore, in order to ensure enough repeated interactions between athletes and coach, only the sport clubs that practiced regularly were selected for current study.
Figure 1.1: A proposed framework of trust in leadership in athletic teams.
CHAPTER 2

REVIEW OF THE LITERATURE

Sport has been experiencing growing importance and popularity in recent decades throughout the world, particularly in the United States. Thus, the sport industry was ranked the eleventh largest of all U. S. industry groups with a market value at $152 billion in 1995 (Archives, The Business of Sports) and by the end of 1999 the sport industry was estimated to be worth $213 billion, the sixth largest of all U. S. industry groups, according to Street & Smith’s SportsBusiness Journal. In addition to the economic impact, sport has had considerable social impact as reflected in other measures such as attendance, media coverage, employment, and the global market (Shank, 1999).

All of this growth is based on the excellence demonstrated by top teams in various sports, and the associated entertainment value. As Chelladurai (2001) has noted, spectator sport is an offshoot of the pursuit of excellence (a participant activity) at various levels. In sum, the driving force behind spectator sport is represented by all the athletic teams pursuing excellence in their respective sports at their own levels of competition. In this sense, the performance and growth of many of the sport organizations as well as that
of the sport industry itself largely depends on the performance of athletic teams. It is not surprising then that athletic teams have attracted the attention of many sport researchers as well as practitioners. Exploring how athletic teams function and/or how to improve athletic team performance have been a recurring research theme for sport researchers (e.g., Chelladurai, 1993; Chelladurai & Doherty, 1998; Smith, Smoll, & Curtis, 1979).

Review of Research on Sport Leadership

One of the important areas of research in athletic teams is on sport leadership (e.g., Chelladurai, 1978; Chelladurai & Carron, 1978; Smith, Smoll, & Curtis, 1979). Current research on sport leadership has tended to follow three different lines of approaches (Chelladurai, 1993). The first line of research is based on the Multidimensional Model of Leadership (Chelladurai, 1978; Chelladurai & Carron, 1978) and the Leadership Scale for Sports (Lss; Chelladurai, 1978; Chelladurai & Carron, 1981; Chelladurai & Saleh, 1978, 1980). This line of research focuses on the leader, the member, and the situation in which they are embedded. In the multidimensional model of leadership, group performance and member satisfaction are proposed to be a function of the congruence among three states of leader behaviors—required, preferred, and actual. These three states of leader behaviors are influenced by the characteristics of the situation, the leader, and the members.

Empirical studies based on the multidimensional model have focused on individual differences and situational factors that affect the perceived and/or preferred leader behavior, and consequences of leadership. For example, individual differences such as athletes’ gender and personality have been found to be an important antecedent of
preferred leadership (Chelladurai & Saleh, 1978; Riemer & Toon, 2001) and ability of athletes was found to influence sport leadership (Liukkonen & Salminen, 1990). Situational factors such as organizational goals, task type, and culture have been found perceived and/or preferred leader behavior (e.g., Chelladurai, 1978; Liukkonen & Salminen, 1990; Terry, 1984). As for the consequences of sport leadership, three different outcome variables have been studied: satisfaction, performance, and coach-athlete compatibility (e.g., Chelladurai, 1978; Dwyer & Fischer, 1990; Horne & Carron, 1985; Schliesman, 1987; Weiss & Friedrichs, 1986).

The second line of research on sport leadership follows the work by Smith, Smoll, and their colleagues (e.g., Smith, Smoll, & Curtis, 1979; Smith, Smoll, & Hunt, 1977; Smoll, Smith, Curtis, & Hunt, 1978), who proposed a Mediational Model of Leadership based on the Coaching Behavior Assessment System (CBAS). The basic approach in this line of research was to “assess relationships between coaches’ behaviors and their players’ evaluative reactions, train the coaches to improve their behaviors, and evaluate the effects of these changes on a variety of player outcome measures” (Chelladurai, 1993). Their original and fundamental model included three elements: coach behaviors, player perception and recall, and player’s evaluative reactions. According to the model, player’s attitudes toward their coach and their sport experience are mediated by their perception and recall of the coaches’ behaviors. The three basic elements of coach behaviors, player perception and recall, and player’s evaluative reactions are affected by three sets of factors: coach individual difference variables, player individual difference variables, and situational factors.
Empirical studies based on CBAS have found coaches’ behaviors such as general technical instruction, high loadings of reinforcement, and mistake-contingent instruction affected the attitudes toward the coach and sport and player’s self-esteem moderated the attitudinal responses to coaches (e.g., Smith et al., 1978; Smith, Zane, Smoll, & Coppel, 1983). As for the training effects on coach behavior, Smith, Smoll, and Curtis’s (1979) study found that the trained group of coaches differed from the control group on both observed and perceived behaviors. Further, the athletes of the trained coaches assessed their coaches more positively than the athletes of untrained coaches. Athletes of the trained coaches also expressed higher levels of intrateam attraction than the athletes of the control group of coaches.

The third line of research deals with the approach initiated by Chelladurai and Haggerty (1978), who proposed a normative model of decision styles in coaching. The research based on this approach was centered on the extent of participation in decision making preferred by athletes and/or allowed by coaches in various situations (Chelladurai & Arnott, 1985; Chelladurai, Haggerty, & Baxter, 1989; Gordon, 1988). The model consisted of three decision styles. The autocratic decision style is when the final decision is actually made by the coach, whereas the delegative decision style is when the coach delegates the authority to make the decision to one or more members. The participative decision style is when the actual decision is made by the group, including the coach. Thus, the autocratic decision style and delegative decision style can be viewed as two extremes on a continuum, while participative decision making would be in the middle. As a coach’s decision style moves from autocratic to delegative, the influence of the
coach is reduced. According to the model, the use of one of the above decision style in solving a problem is contingent upon the configuration of the attributes of that problem.

Empirical studies based on Chelladurai and Haggerty’s (1978) normative model of decision styles in coaching have focused on identifying the decision styles coaches used, the decision styles athletes expected their coach to used, the problem attributes that influence coaches’ decision styles, and the situational and individual variables that affect decision style choices (e.g., Chelladurai & Arnott, 1985; Chelladurai et al., 1989; Gordon, 1986).

From one perspective, the above studies are comprehensive in the sense they have included characteristics of the members, the leader, and the situation in which both the leader and members are imbedded. However, a significant element of leader-member relations has been neglected by previous research. I refer to the trust that develops between an athlete and coach. The lengthy duration and intensity of contact between an athlete and his or her coach is unparalleled conventional supervisor-subordinate relationships. Given this pattern of interactions, it would be expected that both the leader and member would trust each other and the good intentions behind their behaviors. It would be particularly necessary that the athletes have a high level of trust in the leader.

However, the extant research on sport leadership has not explicitly included trust as a critical variable. However, the three lines of research reviewed above would perhaps be more productive if trust in the leader were included in their framework. For example, in the Multidimensional Model of Leadership (Chelladurai, 1978; Chelladurai & Carron, 1978), the three states of leader behavior—required, preferred, and actual—must include
behaviors that generate members’ trust in the leader. Similarly, in the normative model (Chelladurai & Haggerty, 1978), the level of athletes’ trust in coaches can be important antecedent of athletes’ preference in coaches’ decision style choices. In the following section, I will discuss the significance of trust in leadership.

Trust in Leadership

Researchers have long recognized the significance of trust. Hardwig (1991) compared trust to the air that we breathe and claimed that it was vital to our functioning and Gibb (1978) equated it to love and emphasized that “its presence or absence can make a powerful difference in our lives” (p.14). Bennis and Nanus (1985) wrote while contemplating the role trust in an organization:

Trust is the lubrication that makes it possible for organizations to work.
It's hard to imagine an organization without some semblance of trust operating somehow, somewhere. An organization without trust is more than an anomaly, it's a misnomer, a dim creature of Kafka's imagination. Trust implies accountability, predictability, and reliability. It's what sells products and keeps organization's humming. Trust is the glue that maintains organizational integrity. Like leadership, trust is hard to describe, let alone define. We know when it's operating and when its not, and we cannot say much more about it except for its essentiality and that it is based on predictability (p. 43).
The important role of trust in leadership has been recognized for at least four decades (e.g., Argyris, 1962; Liker, 1967; Mellinger, 1956). Trust is an essential element underpinning all social exchange relations (Blau, 1968; Barber, 1983); it is the foundation of relationship (Michalos, 1990) because it affects the degree of personal security in which interpersonal relationships are allowed to develop (Shapiro, 1987). Leadership has three common features: (a) a behavioral process, (b) interpersonal relationship, and (c) a leader’s intent to influencing and motivating members (Chelladurai, 2001). These three features give rise to the importance of trust in leaders. If a leader’s behavior fails to generate trust in his/her members, he/she is unlikely to establish a productive interpersonal relation with the members and to exert his/her influence on and motivate the members because without trust, people tend to act defensively and reject others’ influences on them (Zand, 1972).

This is why trust in leadership is a major element in several leadership theories in the literature of organizational science. For example, transformational and charismatic leaders instill trust in their members (Podsakoff, MacKenzie, Moorman, & Fetter, 1990); trust is a key concept in leader-member exchange theory (Schriesheim, Castro, & Cogliser, 1999), and member’s trust in leaders generate cooperative behaviors (McAllister, 1995) and positively related to performance (Dirks, 2000). The importance of trust in leadership is also evidenced by the volume of published articles, including those of multiple disciplines in other literature. As Dirks and Ferrin (2002) observed, trust in leadership is “found in the literatures of job attitudes, teams, communication, justice, psychological contracts, organizational relationships, and conflict management,
and across the disciplines of organizational psychology, management, public administration, organizational communication, and education, among others” (p. 611).

**Different Perspectives on Trust**

Researchers from various social science disciplines have studied trust from different perspectives. These perspectives can be classified into three categories: a rational choices perspective, social exchange perspective, an affective and/or cognitive perspective, and personal characteristic perspective.

The rational choice perspective focuses on (a) individual gains (Stigler, 1950) and (b) the exchange of material resources (Laver, 1981). Researchers who take a rational choices perspective believe that people are motivated to maximize their personal gains and minimize their personal losses in social interactions and react to other individuals, organizations, authorities, and rules from a self-interested, instrumental perspective. From a rational perspective, trust is a calculation of the likelihood of future cooperation (Williamson, 1993). People tend to trust when the outcomes of the calculation are favorable to them. Similarly, Axekrod (1984) suggested that cooperation was sustained by the “shadow of the future.” It is the expectation of an ongoing relationship that sustain trust in the actions of others. This rational choices perspective recognizes that declining trust in the existence of long-term exchange relationships increases transaction costs, because people must engage in self-protective actions and be “continually making provisions for the possibility of opportunistic behavior” by others. As trust declines, people are increasingly unwilling to take risks, demand greater protections against the possibility of betrayal, and increasingly insist on costly sanctioning mechanisms to
defend their interests. These reflect an essentially calculative conception of trust. In other words, they reflect the assumption that the decision to trust is predicated primarily on the computation of risks. For example, Deutsch (1958) provided the first seminal definition of trust, which is based on expectations that lead to specific behavior. Deutsch defined trust as “An individual may be said to have trust in the occurrence of an event if he expects its occurrence, and expectations lead to behavior which he perceives to have greater negative motivational consequence if the expectation is not confirmed than positive motivational consequence if it is confirmed” (p. 266). This cognition approach was also influenced by the rational choices perspective. Deutsch (1958) stated that trust created opportunities for an individual to behave in a way that maximizes the potential to achieve positive results for themselves.

Rousseau, Sitkin, Burt, and Camerer (1998) identified four different forms of trust: deterrence-based trust, calculus-based trust, relational trust, and institution-based trust. While relational trust can be either based on rational choice or emotion like blind trust, the other three forms are rational choice in nature. Deterrence based trust refers to utilitarian considerations that enable one party to believe that another will be trustworthy, because the costly sanctions in place for breach of trust exceeds any potential benefits from opportunistic behavior (Ring & Van de Ven, 1992, 1994; Shapiro, Sheppard, & Cheraskin, 1992). Calculus-based trust emerges through a calculative process based on rational choice model in which one party calculates the costs and/or rewards of another party cheating or cooperating in a relationship (Lindskold, 1978). If the benefits of cheating do not exceed the costs of being caught, the trustor infers that it would be
contrary to the other party's best interest to cheat, so that party can be trusted (Akerlof, 1970). Dasgupta (1988) concluded that trusting another "implicitly mean[s] that the probability that he will perform an action that is beneficial or at least not detrimental to us is high enough for us to consider engaging in some form of coordination with him" (p. 217). Shapiro et al. (1992) suggested that trust in business relationships first developed on a calculative basis, as parties tried to determine the nature of their interdependence, what they would get from the relationship and give to it, and what their risks and vulnerabilities were likely to be. Institution-based trust refers to institutional controls that “can act as broad supports for the critical mass of trust that sustain further risk taking and trust behavior” (Rousseau et al., 1998, p. 401).

Despite the popularity of rational choice model among researchers in studying trust, it cannot explain all trusting relationships because trust can be conceptualized beyond rational calculation. Research suggests that people do not always behave in calculative manner. Trust can be viewed as an orientation toward society and toward others that has social meaning beyond rational calculation. Studies of moral development have demonstrated that, irrespective of the original motives for acquiring attitudes about one’s obligation to others, those attitudes developed a functional autonomy over time (Rushton, 1980). Hence, people help others and/or their group because they feel it is the morally appropriate action. Evidence of the noninstrumental nature of people’s cooperation is provided by the important role that identification with the group plays in facilitating cooperation (Brewer & Kramer, 1986; Kramer & Brewer, 1986). Brann and Foddy (1988) found that those who trusted others continued to
cooperate, irrespective of the behavior of others in the group. This trusting behavior reflects a “moral duty or commitment” (Kramer & Goldman, 1995). Dawes, van de Kragt, and Orbell (1990) suggested that identification increased cooperation “in the absence of any expectation of future reciprocity, current rewards or punishments, or even reputational consequences” (p. 199). In other words, instrumental models are inadequate to explain people’s trust in others.

Some researchers take a social exchange perspective on trust. Social exchange referred to “reciprocal acts of benefit, in which individuals offer help, advice, approval, and so forth to one another without knowledge of whether or when the other will reciprocate” (Molm & Takahashi, 2000, p.1396). As Settoon, Beneett, and Liden (1996) observe, "exchanges that are social in nature are based on trust that gestures of goodwill will be reciprocated at some point in the future" (p. 220). Social exchange provides a different basis for examining relationships from negotiated exchange such as economic or transactional exchanges. In a negotiated exchange relation, since the obligations are clearly specified by terms of strictly binding agreement, the exchange is known in advance and guaranteed, and breach of the agreement will evoke punishment. Consequently, trust is unnecessary (Bonacich, 1995).

Researchers who take a social exchange perspective point out that most exchanges occur among people who have long-term social relationships and operate within a stable social group. Hence, social institutions can exert both formal and informal control over the behavior of individuals, making untrustworthy behavior costly, and therefore instilling trust. For example, regulatory agencies and civil laws allow those
cheated in commercial transactions to complain or sue and possibly collect not only actual but also punitive damages designed to discourage violations of trust. Informally, social groups sanction rule-breakers by refusing to deal with them. As a consequence, people value their reputations and act to protect them. The occurrence of reputational effects depends on the existence of ongoing interactions and stable social networks through which reputational information can be spread. Hence, trust is linked to social context, and trusting behavior.

Researchers hold cognitive and/or affective perspective on trust believe that trust has cognitive and/or affective foundations (e.g., Lewis & Wiegert, 1985; Sashkin, 1990). To explain what cognition based trust is, Lewis and Wiegert wrote: “we choose whom we will trust in which respects and under what circumstances, and we base the choice on what we take to be ‘good reason,’ constituting evidence of trustworthiness” (p. 970). According to them, available knowledge and good reasons are the foundations for cognitive trust. On the other hand, Rempel, Holmes, and Zanna (1985), Friedman (1993), and Sabel (1993) defined trust as "feelings of confidence, and security in the caring responses of the partner and the strength of the relationship" (p. 96). This definition clearly focuses on the affective elements of trust. Related affective elements of trust include warmth and acceptance (Gibb, 1964), faith (Fox, 1974), and security (Rempel, et al., 1985). Affective foundations for trust consist of the emotional bonds between trustors and trustees (Lewis & Wiegert, 1985). People make emotional investments in trust, express care and goodwill for the welfare of others, and believe that these are reciprocated (Pennings & Woiceshyn, 1987). The emotional ties among people
can provide the basis for affective trust. Sashkin (1990) argued that consistency led to cognitive trust consequences. For example, if someone is consistently punctual, others will trust that that person will be on time for future meetings. This trust is cognition-based because it is a belief that past behavior is a prediction of future behavior. Conversely, credibility has affective trust consequences because it emanates from the positive affect one feels when others follow through on promises. The affective and cognitive aspects of trust are also reflected in other researchers’ definitions of trust. For example, Sashkin (1990) defined trust as "the confidence that employees feel toward management and the degree to which they believe what management tells them" (p. 6). The confidence felt by employees represents the affective element of trust, and belief in what management says represents the cognitive element of trust. Sashkin's construct clearly contains both cognitive and affective elements of trust.

Empirical evidence from the social-psychological literature on trust in close relationships supports this perspective of trust. For example, Johnson-George and Swap (1982) identified and measured two dimensions of trust, which they labeled “reliableness” and “emotional trust.” McAllister (1995) studied affect- and cognition-based trust as a foundation for interpersonal cooperation in organizations. Based on his study, McAllister found that "affect-based trust and cognition-based trust represent distinct forms of interpersonal trust" (p. 49). The results of his study also indicated that some level of cognition-based trust was a necessary antecedent for the development of affect-based trust. As an example, in order for an individual to develop affective trust toward another person, one must first believe that some level of cognition-based trust is
warranted. In McAllister's study, levels of cognition-based trust ($u= 5.43, S.D. = 1.29$) were higher than levels of affect-based trust ($u= 4.71, S.D. = 1.47$). Furthermore, results of his study indicated that although cognition- and affect-based trust might be loosely correlated, each form of trust functioned in a unique manner and had a distinct pattern of association to antecedent and consequent variables. McAllister stressed the need for "future research on how relationships of affect-based trust between managers in organizations influence their behavior and performance" (p. 54).

Some researchers view trust as the characteristics of a trustee (who is trusted) or as the results of the interaction between a trustee’s characteristics and the characteristic of a trustor (who trusts). The often-cited two articles by Butler (1991) and Mayer et al. (1995) are the representatives of the thought of this school of researchers. Based on previous studies which found that among the two subconstructs of trust: a global component and a specific component, only the latter predicted organizational outcomes (C. L. Scott, 1980), Butler (1991) argued that to understand trust in an organization in terms of performance, one needed to find out a set of conditions that activated and sustained trust in a specific person. Butler found ten characteristics of a trustee that produced trust in a trustor. The ten characteristics are availability, competence, consistency, discreetness, fairness, integrity, loyalty, openness, promise fulfillment, and receptivity. It is obvious that the ten conditions Bulter found are all personal characteristics of a trustee.

Although the ten conditions Bulter identified help us to understand trust in leadership, those conditions just reflect one side of trust production. Trust exists in
relationships between two parties. Thus, trust is affected by both a trustee’s characteristics and a trustor’s own characteristics. This thought is reflected in Mayer et al.’ (1995) work. Based on a thorough review of previous studies, Mayer et al. presented an integrative model of organizational trust, provided in Figure 2.1.

In their perspective, trust is a result of the interaction between the characteristics of a trustee, which they termed it as the trustworthiness of the trustee, and the characteristics of the trustor, which they termed as the trustor’s propensity.

Figure 2.1: An integrative model of organizational trust
Trustworthiness constitutes ability, benevolence, and integrity in their model. They defined ability as “group of skills, competencies, and characteristics that enable a party to have influence within some specific domain” (p, 717). They explained that the domain of the ability was specific because the trustee might be good at several areas but just so-so in other areas. “Benevolence is the extent to which a trustee is believed to want to do good to the trustor, aside from an egocentric profit motive. Benevolence suggests that the trustee has some specific attachment to the trustor” (1995: 718). They explained the relationship between integrity and trust as “the trustor’s perception that the trustee adheres to a set of principles that the trustor finds acceptable” (p, 719). They elaborated that both the adherence to and acceptability of the set of principles were important because if the trustor did not accept the set of principles, the trustee would not be viewed as having integrity.

Although Mayer et al. (1995) narrowed down the antecedents of trust to only three sub-dimensions, they might do it at a cost of vagueness. For example, in Mayer et al.’s model, the perceived justice of the trustee is one principle of integrity. However, Bulter (1991) considered justice, which he labeled as fairness, as an independent condition from integrity to influence trustor’s trust in the trustee, as did Hart, Capps, Cangemi, and Caillouet (1986). While simplifying the sub-dimensions, Mayer et al.’s efforts may lead to a lack of clarity in their model.

The progress Mayer et al. made over Bulter’s (1991) theory is the integration of both characteristics of the trustee as well as the trustor in their model to explain trust in organization. They argued that trustor’s propensity to trust will influence the trust a
trustor has for a trustee. Because of the personal differences in trustor’s propensity, some trustors are more likely to trust than are others. They explained that trustor’s propensity was a stable personal disposition that reflected a person’s general willingness to trust others. This attitude was thought to be formed by different personality, experiences, and cultural background. The concept of trustor’s propensity is similar to Rotter’s (1967) generalized trust, which reflects generalized expectations of others. A typical item in Rotter’s interpersonal trust measure is, for example, “In dealing with strangers one is better off to be caution until they have provided evidence that they are trustworthy.”

One criticism of the personal characteristic perspective of trust is that it leaves out the broader social context (e.g., organization, society) in which trust exists. For example, Wekselberg (1996) criticized the influence approach that underpinning Mayer’s (1995) et al.’s model because it “(a) is focused on individuals who are connected only through what they do to each other psychologically or physically, (b) neglects social context, (c) considers only individual purposed of interaction, (d) considers only individual meaning of interaction, and (e) is focused mostly on individual outcomes of interactions” (p. 334). As an alternative approach, Wekselberg suggested a cooperative approach to analyze social phenomena such as trust.

In summary, this study takes multi-perspectives on the athlete’s trust. First, the nature of the coach-athlete relations is social exchange, in contrast negotiated exchange. Thus, social exchange perspective provides a better lens to investigate athlete’s trust in the coach. Second, I take a characteristics perspective and view trust as a joint result of both coach’s characteristics and the athlete’s characteristics. Third, in the proposed
model, athlete’s trust in coach is viewed as a calculation of the perceived characteristics of the coach, including coach’s ability, benevolence, integrity, and justice. This embodies the rational choices perspective. Finally, athlete’s trust in coach is conceptualized to include both cognitive component and affective component.

Definitions of Trust

There appears to be widespread agreement on the importance of trust, however, there remains little consensus about the meaning of trust (Lewicki & Bunker, 1995; Shapiro, 1987). Although some commonality does exist, a universal consensus of trust does not, which has resulted in "a potpourri of definitions applied to a host of units and levels of analysis" (Shapiro, 1987, p. 624). Lewicki and Bunker (1995) noted a lack of integration among the various social science perspectives, "There has been remarkably little effort to integrate these different perspectives or articulate the key role that trust plays in critical social processes" (p. 135). The absence of a unified definition of trust is disconcerting to some researchers (e.g., Hosmer, 1995; Lewicki & Bunker, 1995; Shapiro, 1987). However, the research on trust from multiple paradigms creates opportunities for cross-discipline synergies in the study of organizational trust.

Researchers have investigated the concept of trust along a continuum from the macro level to the micro level, with trust as an individual expectation and as a social structure, respectively. On the macrolevel, the analysis of trust is centered on the influence of social factors on patterns of trust (e.g., Shapiro, 1987) and effect of trust within social systems (e.g., Fukuyama, 1995); on the mesolevel, it focuses on consideration of the social networks (e.g., Cummings & Bromiley, 1992; Sashkin, 1990).
Finally, on the microlevel, it involves an exploration of the psychological basis of trust (e.g., Mayer, 1995).

Past definitions of trust have focused on five orientations of understanding: trust as attitude (e.g., McAllister, 1995); trust as belief (e.g., Cook & Wall, 1980); trust as expectation (e.g., Gabarro, 1978; Mayer et al., 1995; Zucker, 1986); trust as behavior (e.g., Zand, 1972) and; trust as an attribute (Sitkin & Roth, 1993). Furthermore, Deutsch (1958) and Cummings and Bromiley (1996) have defined trust as a multi-dimensional construct of some combination of these five orientations of study.

Table 2.1 contains numerous definitions of trust by sociologists (e.g., Barber, 1983; Coleman, 1990; Fox, 1974; Granovetter, 1985; Lewis & Weigert, 1985; Shapiro, 1987; Zucker, 1986), psychologists (e.g., Rempel et al., 1985; Rotter, 1967), economists (e.g., Arrow, 1974; Williamson, 1993), behavioral decision theorists (e.g., Axelrod, 1984), and management theorists (e.g., Butler, 1991; Hosmer, 1995; Mayer et al., 1995; McAllister, 1995; Sashkin, 1990; Sitkin & Roth, 1993, Zand, 1972).
<table>
<thead>
<tr>
<th>Researcher</th>
<th>Citation</th>
<th>Definition of Trust</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotter</td>
<td>1967</td>
<td>Trust is an &quot;expectancy held by an individual or group that the word, promise, verbal or written statement of another individual or group can be relied upon&quot; (p. 651)</td>
</tr>
<tr>
<td>Zand</td>
<td>1972</td>
<td>&quot;Trust is the willingness of one person to increase his or her vulnerability to the actions of another person, whose behavior he or she could not control&quot; (p. 230).</td>
</tr>
<tr>
<td>Farris, Senner, &amp; Butterfield</td>
<td>1973</td>
<td>Trust is &quot;a personality trait of people interacting with the peripheral environment of an organization&quot; (p. 145).</td>
</tr>
<tr>
<td>Fox</td>
<td>1974</td>
<td>&quot;Trust is having faith and confidence in a person or thing&quot; (p. 66)</td>
</tr>
<tr>
<td>Golembiewski &amp; McConkie</td>
<td>1975</td>
<td>&quot;Trust implies reliance on, or confidence in, some event, process or person&quot; (p. 133).</td>
</tr>
<tr>
<td>Gabarro</td>
<td>1978</td>
<td>Trust is &quot;the extent to which one is willing to ascribe good intentions to and have confidence in the words and actions of other people&quot; (p. 39).</td>
</tr>
<tr>
<td>Cook &amp; Wall</td>
<td>1980</td>
<td>Trust is &quot;the extent to which one is willing to ascribe good intentions to and have confidence in the words and actions of other people&quot; (p. 39).</td>
</tr>
<tr>
<td>Rempel, Holmes, &amp; Zanna</td>
<td>1985</td>
<td>&quot;Trust is defined by feelings of confidence and security in the caring responses of the partner and the strength of the relationship&quot; (p. 96).</td>
</tr>
<tr>
<td>Lewis &amp; Weigert</td>
<td>1985</td>
<td>&quot;Trust exists in a social system insofar as the members of the system act according to and are secure in the expected futures constituted by the presence of each other or their symbolic representation&quot; (p. 968).</td>
</tr>
<tr>
<td>Zucker</td>
<td>1986</td>
<td>Trust is having confidence or predictability in one's expectations.</td>
</tr>
<tr>
<td>Shapiro</td>
<td>1987</td>
<td>&quot;Trust is a social relationship in which principals - for whatever reason or state of mind - invest resources, authority, or responsibility in another on their behalf for some uncertain future return&quot; (p. 626).</td>
</tr>
</tbody>
</table>

Table 2.1: Definitions of trust
Table 2.1 continued

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Year</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gambetta</td>
<td>1988</td>
<td>Trust is the &quot;probability that a person with whom we are in contact will perform an action that is beneficial or at least not detrimental, that is high enough for us to consider engaging some form of cooperation with him&quot; (p. 217).</td>
</tr>
<tr>
<td>Sashkin</td>
<td>1990</td>
<td>&quot;Trust is the confidence that employees feel toward management and the degree to which they believe what management tells them&quot; (p. 6).</td>
</tr>
<tr>
<td>Michalos</td>
<td>1990</td>
<td>&quot;Trust is a relatively informed attitude or propensity to allow oneself and perhaps others to be vulnerable to harm in the interests of some perceived greater good&quot; (p. 217).</td>
</tr>
<tr>
<td>Ring &amp; Van de Ven</td>
<td>1992</td>
<td>&quot;Trust is a mixture of the two aspects of having confidence in: being able to predict expectations (Zucker, 1986) and another's goodwill, (Friedman, 1991)&quot; (p. 488).</td>
</tr>
<tr>
<td>Cummings &amp; Bromiley</td>
<td>1992</td>
<td>&quot;Trust is the expectation that another individual or group will: Make a good faith effort to behave in accordance with any commitments, both explicit or implicit; be honest in whatever negotiations preceded those commitments; and, not take excessive advantage of others even when the opportunity is available&quot; (p. 4).</td>
</tr>
<tr>
<td>Sabel</td>
<td>1993</td>
<td>&quot;Trust is the mutual confidence that no party to an exchange will exploit the other's vulnerability&quot; (p. 1113).</td>
</tr>
<tr>
<td>Hosmer</td>
<td>1995</td>
<td>&quot;Trust is the expectation by one person, group or firm of ethically justifiable behavior - that is, morally correct decisions and actions based upon ethical principles of analysis - on the part of the other person, group, or firm in a joint endeavor or economic exchange&quot; (p. 399).</td>
</tr>
<tr>
<td>Mayer, Davis, &amp; Schoorman</td>
<td>1995</td>
<td>&quot;Trust is the willingness of a party to be vulnerable to the actions of another party based on the expectations that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party&quot; (p. 712).</td>
</tr>
<tr>
<td>McAllister</td>
<td>1995</td>
<td>&quot;Trust is the extent to which a person is confident in, and Willing to act on the basis of the words, actions, and decisions of another&quot; (p. 25).</td>
</tr>
<tr>
<td>Sako</td>
<td>1995</td>
<td>Trust is the &quot;mutual expectation that partners will not exploit vulnerabilities&quot; (p. 8).</td>
</tr>
<tr>
<td>Rousseau, Sitkin, Burt, &amp; Camerer</td>
<td>1998</td>
<td>&quot;Trust is a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another&quot; (p. 395).</td>
</tr>
</tbody>
</table>
In their cross-discipline review of research on trust, Rouseau et al. (1998) found that researcher did appear to agree on some elements of trust. Based on their findings, they offered a widely held definition of trust; "Trust is a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another" (p. 395). This definition was adopted in this study to define an athlete’s trust in a coach.

Research Focuses on Trust

When examining situational factors that influence trust, many researchers have focused on the aspects of the relationships between cultural and economic factors and general trust (similar to propensity to trust). For example, Johnson (1996) examined the formation and outcomes of trust between partners from different cultural background. Their findings revealed that partner cultural sensitivity was an important contributor to trust building for both sides. Sullivan, Peterson, Kameda, and Shimada, (1981) investigated whether the manner in which conflicts were resolved in Japanese-American joint ventures in Japan influences the level of future mutual trust. Their findings revealed that Japanese managers perceived a higher level of future trust when disputes were resolved through conferral, except when an American was in charge of operations.

Doney, Cannon, and Mullen (1998) presented a trust model for understanding the influence of national culture on the development of trust. In the model, Doney et al. suggested that there were five processes to produce trust: (a) calculative process is the process how calculus-based trust is produced; (b) intentionality process refers to the link between intentions, or motives, and trust; (c) prediction process refers to trust based on
prediction capability process depends on one party's ability to forecast another party's behavior (Deutsch, 1960; Rempel et al., 1985); (d) capability process involves a trustor's willingness to trust based on an assessment of the target's ability to meet his or her obligations as well as the trustor's expectations; and (e) transference process refers to trustor transfers trust from a known entity to an unknown one. Doney et al. (1998) stated that national culture influenced trust through the five channels described above.

Pearce, Branyiczki, and Bigley. (2000) investigated the impact of particularism and universalism on organizational trust. According to Pearce et al., “particularism refers to actions based on an exclusive attachment to one’s own particular party, nation, or circle of friends” (p. 149). Following Parsons (1951), particularism is based on a value orientation in which a specific person and situation guide action. Pearce et al. exemplified that in a particularistic organizational culture, organizational positions are created for persons because of who they are (e.g., the son of a political leader), pay increases can be granted to a favorite person because performance-based pay is symbolic. In contrast, universalism means “the application of general rules or propositions uniformly to all. Following Weber, the general proposition universally applied within organizations has usually been the meritocratic one (hiring and promoting all employees based solely on an impersonal assessment of their performance or ability)” (p. 149). Pearce et al. explained that the degree to which organizations are universalistic or particularistic affects organizational practices. For example, in universalistic organizations seek to establish rules and procedures to make sure that the hire, reward, and promotions are based on a universal principle such as the contributions an employee
makes to organizational goal achievement. By contrast, in a particularistic culture, those with the power to hire, reward, and fire would be expected to do so based on certain social relation (e.g., she or he is a relative of a friend, or is personally loyal to the leader). Employee attempts to advance their careers in such settings would be based on particularistic claims such as greater personal need or loyalty. Pearce et al. found that the perception of differences in personnel practices (i.e., particularism and universalism) mediated the relationship between political system and employees’ trust in one another, their perceptions of coworker shirking, and their organizational commitment.

Fukuyama (1996) investigated the relationship between trust and culture and the economic development. He argued that the economic development of a country was dependent on the level of trust embedded in its culture. When there were lower levels of trust within cultures, it impeded a country’s progress toward the development of large-scale industries. Fukuyama claimed that in the lower-trust cultures of China, Italy, France, and Korea, the family played a central role in these cultures; consequently, relationships with non-family members were weak and often viewed with suspicion. He suggested that business enterprises in cultures with lower levels of trust tended to be family owned, and owners were reluctant to hire workers outside of the family. Because of this refusal to hire professional managers, these enterprises were limited to hiring family members who might not have the requisite management skills. Consequently, the enterprises' ability to expand could be impeded. He noted that the result was a large number of small organizations unable to benefit from the economies of scale. Therefore,
governments in these countries with lower levels of trust must subsidize and continually be involved in large-scale industries.

Conversely, Fukuyama (1996) argued that only cultures with higher levels of trust could create the large-scale business enterprises necessary to compete in today's global economy without massive government involvement. He suggested that cultures with high levels of trust, such as Germany and Japan, had developed large-scale corporations and prosperous economies. Fukuyama (1996) argued that a nation's cultural attitude toward trusting others was the critical factor in determining its economic prosperity. He stated that both the German and Japanese models created economic prosperity because of the higher levels of trust that existed in their cultures.

Another study looked at economic security and trust in a Peruvian automobile manufacturing plant. Westacott (1970) stated that trust and distrust were a result of scarcity or affluence. Furthermore, an individual's economic viability was a function of opportunities and constraints provided by society. Westacott found that trusting individuals were more trusting and secure about their economic futures. These findings are consistent with those of an earlier study that found a relationship between distrust and scarcity (Foster, 1960). Other researchers found that rural area residents had a higher propensity to trust others than city residents (Levine, Vilena, Altman, & Nadien, 1976).

While agreeing with those researchers above that cultural and economic factors influence trust, I did not include them into the proposed model. This is because in a relationship with repeated interactions like coach-athlete relations, people tend to refer to the specific information about the trustee to decide whether or not to trust (Butler, 1991).
Cultural and economic factors are more likely to influence a person’s general tendency to trust--propensity to trust. Therefore, the proposed model implied the cultural and economic influence on trust.

Trust in Organizations

The trust among organization members can enable social exchanges and facilitate cooperation (Blau, 1964; Coleman, 1990; Zucker, 1986). Trust in an organizational setting may improve cooperation in terms of better communication (Roberts & O’Reilly, 1974) and knowledge exchange. Members were more likely to both withhold and distort information when trust decreased (Roberts & O’Reilly, 1974). Jones and George (1999) suggested that under trust, individuals were more likely to freely exchange knowledge and information, seek help from each other, sacrifice personal needs and ego, and get highly involved in the work. According to Wayne et al. (1998), "the exchange between an employee and his or her direct superior is the primary determinant of employee behavior" (p. 103). Gamson (1968) identifies trust as a system resource and that "the loss of trust is the loss of system power, the loss of a generalized capacity for authorities to commit resources to gain collective goals" (p. 43). Evidence also exists that trust may be related to the following job-related issues: expression of one's intention to quit (Butler, 1991); job satisfaction (Butler, 1991; Cook & Wall, 1980); willingness to cooperate (Cummings & Bromiley, 1992). Trust perceptions among organizational members are linked to how organizations performance (Dirks, 1983). Unless trust exists in the organization, empowerment is not likely to enhance cooperation and achieve increased organizational performance (Jones & George, 1998; Tyler & Kramer, 1996). Trust by followers in the
leadership team is described by Likert (1961) as an important attribute in high performance organizations. Empirical studies found that "trust is a significant predictor of turnover intentions after partialling out the effects of job satisfaction and several demographic variables" (Parra, 1995, p. 25); Cook and Wall (1980) found that trust was a contributing factor to organizational commitment. Other studies have looked at the relationship between trust and productive supplier relationships (Lorenz, 1988), self-managed work teams (Lawler, 1992), and efficiency (Arrow, 1974).

Findings on trust from organization science literature may shed some light on our understanding of trust in leadership as well as the outcomes of such trust in athletic teams. However, those findings should be taken with caution. Although athletic teams as a social entity are often considered to be one type of organizations with all the attributes of an organization, they are unique in many aspects (Chelladurai, 2001). First, as Riemer and Chelladurai (1998) observed that in an athletic team, athletes are voluntary to be a member of that team, whereas in organizations, employees are paid to work there. While employees may have to work under a leadership whom he/she does not trust because of economic concerns, there is no such pressure for an athlete and he/she can move to another team, or stop participating in the sport completely when facing the same situation. The second difference between athletic teams and organizations is the public record of performances of the athletic teams (Ball, 1975). The records of performances of most business organizations are classified. The third difference is the media exposure. Given the appealing of sport to general public, athletic teams get a lot of media exposure. They often compete in front of hundreds and thousands of spectators and TV audiences.
Finally, athletic teams are unique in terms of how performance is evaluated. Athletic
teams are often evaluated by win/loss record, which is unreliable because factors such as
wrong official call and the competitiveness of the opponent may come into play
(Courneya & Chelladurai, 1991).

Because of these differences, findings on trust in leadership from organization
sciences literature cannot just be generalized to coach-athlete relations. Hence, there is a
vital need to develop studies specific to athletic teams. In the following section, I will
discuss research on trust in leadership in athletic teams.

Research on Trust in Leadership in Sport

In contrast to trust as a research theme at the “center stage contemporary
organizational theory and research” (Kramer, 1999, p. 594), few studies have been
carried out in the context of sport. Among these, most noteworthy is the study conducted
by Dirks (2000), an organizational scientist. Dirks empirically tested the relationship
between trust in leadership and team performance with data from Division I and Division
III NCAA basketball teams. What Dirks found is that athletes’ trust in leadership had a
significant effect on team performance. As evidenced by the results in the study, the two
teams reporting the highest levels of trust in their coach early in the season excelled most
of their rivals. In contrast, the team with the lowest level of trust in its coach won
approximately only one out of ten of its conference games. Dirks’ findings indicate that
the influence of trust on team performance “are not only important theoretically but also
substantial in practical terms” (p, 1008).
Dirks also conducted interviews with some of the coaches and players to investigate the relationship between trust and team performance. His interviews suggest that trust in the coach resulted in better team performance because the players were more likely to accept the decisions of their coach and follow their coach's directives. For example, one coach explained that trust "allows players to be willing to accept their role, so that they can do what it takes to win" (p. 1009). Similarly, a player mentioned that, once trust in coach was established, "the progress we made increased tremendously because we were no longer asking questions or were apprehensive. Instead, we were buying in and believing that if we worked our hardest, we were going to get there" (p. 1009). Dirks' findings highlight the importance of trust in leadership in athletic teams, which is consistent with organizational scientist Likert (1961) who described trust by members of a leadership team as an important attribute in high performance organizations.

However, as an organizational scientist, Dirks’ interest was in testing the relationship between trust in leadership and team performance. He did not investigate what factors influenced an athletes’ trust in a coach, nor did the other studies on trust in sport settings. Furthermore, the performance was measured by the ratio of wins to total games in a season in the study. As Courneya and Chelladurai (1991) have noted that the win/loss measures of performance are contaminated by several external factors such as random chance, opponent’s performance, and referee’s decisions. Consequently they may not be responsive to psychological interventions including trust in leadership. Thus,
it becomes necessary to select those performance measures that are devoid of such contamination to investigate the effects of trust in sport leadership.

In summary, given the important role of athletic teams in promoting and popularizing sport, the performance of athletic teams becomes a critical focus for continued research. Athletic teams are characterized by intense interactions between the coach of a team and its members. Thus, a member’s trust in a leader is a contributing factor in performance improvements. In the next section, variables in the proposed model will be discussed.

**Variables in the Proposed Model**

*Antecedents of Trust*

Trust relationship includes at least two parties: trustor (the one who gives trust) and trustee (one who is trusted). The perceived characteristics of a trustee are viewed as important antecedent to trust (Butler, 1991; Mayer et al., 1995). This is because trust is derived from the expectations of how the trustee will behave (Good, 1988). Those expectations, however, are based on the perceived characteristics of the specific trustee. For example, Lieberman (1981) noted that perception of a professional’s competence and integrity were the basis for trust to develop in fiduciary relationships. Molm and Takahashi (2000) found that behaviors signaling the trustee's trustworthiness had significant impact on trust. These characteristics reflect the trustworthiness of a trustee, which will lead the trustee to be more or less trusted. Therefore, those characteristics are not trust per se, but antecedents that help build the foundation for the development of trust.
While there is an agreement on the perceived characteristics as important antecedents to trust (i.e., Mayer et al., 1995; Ring et. al., 1992), there is disagreement on which characteristics and conditions influence trust. For example, Butler (1991) identified ten conditions that produced trust in supervisor among subordinates (i.e., availability, competence, consistency, discreetness, fairness, integrity, loyalty, openness, promise fulfillment, and receptivity). In contrast, Strickland (1958) and Solomon (1960) suggested that benevolence was the only trustee characteristic that was responsible for trust. Johnson-George and Swap (1982), on the other hand, suggested that reliability was the paramount characteristic. More recently, based on an extensive literature review, Mayer et al. (1995) suggested that three characteristics were the antecedents of the perceived trustworthiness: ability, benevolence, and integrity.

Mayer et al. defined ability as “group of skills, competencies, and characteristics that enable a party to have influence within some specific domain”(p. 717). They explained that the domain of the ability was specific because the trustee might be good at several areas but just so-so in other areas. Their view that ability is an important element of trustworthiness is consistent with many of previous studies (e.g., Cook & Roth, 1980; Deutsch, 1960; Sitkin & Roth, 1993). Their conception of ability is also similar to a number of constructs, albeit, with different names. For example, as mentioned above, Butler (1991) labeled a similar construct as competence and Hovland, Janis, and Kelley (1953) named it expertise. Concurring with Mayer et al. (1995) and also consistent with previous studies, I incorporated the perceived ability of a coach as one perceived characteristic that would influence an athlete’s trust in a coach.
Another characteristic that Mayer and his colleagues identified that influence perceived trustworthiness was benevolence. “Benevolence is the extent to which a trustee is believed to want to do good to the trustor, aside from an egocentric profit motive” (Mayer, et al., 1995, p. 718). Mayer et al. explained that benevolence implied some specific attachment of a trustee to the trustor and was “the perception of a positive orientation of the trustee toward the trustor” (p. 719). Their conceptualization of perceived benevolence as an essential influence of trust is consistent with a number of authors who have used the word benevolence as an antecedent of trust (e.g., Larzelere & Huston, 1980; Solomon, 1960; Strickland, 1958). Applying the above reasoning to the athlete and coach relationship, the perceived benevolence of a coach by an athlete is the extent to which the athlete believes that the coach wants to do good to him/her, aside from the coach’s own benefits. Thus, the higher level of perceived benevolence of the coach leads to higher level of trust in the coach.

Justice refers to the role of fairness (Greenberg, 1987). People usually consider the nature of their treatment by others as a determinant of justice (Greenberg, 1996). In the leader-member relations, perception of leader’s justice was found to affect trust in the leader and the system as a whole (Pillai et al., 1999). It follows that in order to gain trust from the members, a leader must be perceived as providing just treatment to members.

Justice can be typically grouped into three approaches “in terms of the outcomes accruing to individuals or units, the decision processes by which the outcomes to different parties were determined, and the way the processes and outcomes were communicated to individuals or groups” (Chelladurai, 1999, p. 214): (a) distributive
justice, which refers to “the typical metric for judging the fairness of transactional contracts and economic exchanges” (Konovsky & Pugh, 1994, p. 658), (b) procedural justice, which refers to the fairness of the procedures used to determine those outcomes (Folger & Greenberg, 1985), and (c) interactional justice “addresses the manner in which the decisions are communicated” (Chelladurai, 1999, p. 214). Evidence supports that member’s perceived procedural justice of a leader affects trust in the leader. For example, Folger and Konovsky (1989) found perception of fair procedures influenced members’ trust in the leader. In contrast to procedural justice, distributive justice is based on the comparison of what one pays and what one gains. For example, athletes will weigh the feedback from a coach of the athletes’ performance in form of punishment and reward. If they feel the feedback is fair, they are more likely to trust the coach and vice versa.

Research has shown that justice is highly correlated with trust. For example, Alexander and Ruderman (1987) found a positive relationship between perceptions of both procedural justice and distributive justice and trust in upper-level management. Similar results were obtained by Lind and Tyler (1988). Butler (1991) found that fairness was one of the ten conditions that produce trust in leadership. Given the above argument, inclusion of perceived justice as a separated antecedent of trustworthiness is well grounded.

Mayer et al. (1995) identified perceived integrity of a trustee as an antecedent of trust. They explained that perceived integrity resulted from “the trustor’s perception that the trustee adheres to a set of principles that the trustor finds acceptable” (p. 719). In their conceptualization of integrity, both the adherence to and acceptability of the set of
principles are important because personal integrity is defined by the set of principles that
one follows. If a trustor does not accept the set of principles, the trustee will not be
viewed as having integrity. However, Mayer et al. implied that consistency, fairness, and
congruity could all be included into integrity. This is in contrast to Butler’s (1991)
definition of integrity as honesty and truthfulness and is independent from conditions
such as fairness. Similarly, Hart et al. (1986) also viewed integrity and fairness as
separate constructs. While questionable about the soundness of the rationale that
underpins the inclusion of fairness, consistency, and congruity all into the term integrity,
I concur with those authors who separate integrity and fairness. Therefore, I adopted
Butler’s view of integrity as honesty and truthfulness in my model.

Researchers taking a personal characteristic perspective on trust view trust as a
result of both trustee’s characteristics and trustor’s characteristics. For example, Driscoll
(1978) and C.L. Scott (1980) conceptualized trust as be consisted of both a global
component, which relates to a trustor’s general willingness to trust others, and a specific
component, which pertains to the trustworthiness of a trustee. Similarly, Zaheer et
al.(1998) distinguished between relational and dispositional trust and pointed out that
dispositional trust is an individual trait reflecting the level of personal tendency to
trusting other people in general. Relational trust relates to the level of trustworthiness of
a trustee perceived by a trustor. In the following, I will discuss the global component of
trust, which Mayer et al. (1995) labeled as a trustor’s propensity to trust.
The concept of propensity to trust is similar to Rotter’s (1980) general trust, which is a trustee’s “default” expectation of in what degree other people can be trusted. Rotter (1980) suggested that individuals possess a certain level of general trust, which is formed by experiences in childhood and adulthood, personality, and cultural and environmental background (Deutsch, 1958; Rotter, 1967; Zand 1997).

**Consequences of Trust**

Willingness to cooperate refers to the extent to which an athlete feels like communicating with the coach, to accept the coach’s decision, and to make changes based on the coach’s feedback of his/her performance. Researchers have widely acknowledged that trust can lead to cooperative behavior among individuals, groups, and organizations (e.g.; Cummings & Bromiley, 1992; Gambetta, 1988; Good, 1988; Mayer et al, 1995; McAllister, 1995). Roberts and O'Reilly (1974) suggested that a high level of trust in an organizational setting might improve cooperation in terms of better communication and knowledge exchange. They also found that members were more likely to both withhold and distort information when trust decreased (Roberts & O’Reilly, 1974). Consistent with them, more recent studies support the ideas that trust influences cooperation through communication and knowledge exchange. For example, Huemer et al. (1998) suggested, "decisions to exchange in knowledge under certain circumstances are based on trust" (p. 124). Similarly, Jones and George (1999) suggested that under trust, individuals were more likely to freely exchange knowledge and information, seek help from each other, sacrifice personal needs and ego, and get highly involved in the work. All of these, they suggested, would affect cooperation.
In leader-member relations, trust is an important determinant of member’s cooperation with the leader. Trust was found to moderate the relationship between having power and being influential (Frost & Moussavi, 1992). As trust decreases, so does the impact of instruction conveyed by the leader (IIGen, Fisher, & Taylor, 1979). Put another way, if members trust their leader, they are more likely to accept their leader’s instruction and be willing to cooperate with the leader by following the instruction.

While trust in coach elicits athletes’ cooperation with the coach, the cooperation, in turn, will improve the athletes’ performance. As Zand (1972) suggested, in low-trust groups, cooperation and performance was low because “low-trust interpersonal relationships interfere with and distort perceptions of the problem. Energy and creativity are diverted from finding comprehensive, realistic solutions, and members use the problem as an instrument to minimize their vulnerability” (p. 238). Similarly, Dirks (2000) noted, “Given little trust in the leader, team members are unlikely to be willing to sacrifice their interests for the team or its goals in a context of uncertainty” (p.1005). As a result, job performance suffers. In contrast, when trust level is high, members are more likely to get involved in communication and knowledge exchange with the leader and therefore, mitigate the existence of imperfect information (Giddens, 1990). The more information the members know about the leader’s vision, goals and decisions, the more likely they are to accept them and work hard to achieve them. Therefore, trust by followers of a leadership team is described as an important attribute in high performance
organizations (Likert, 1961) and is usually reciprocated by the member's outstanding performance (Lipman-Hlumen, 1996).

Organizational studies show that cooperation is positively related to performance. For example, Campion, Papper, and Medsker (1996) found that cooperation was related to manager judgments of team performance. Seers, Petty, and Cashman (1995) found that cooperation was positively related to efficiency. These findings suggest that cooperation has a positive effect on performance and that this effect was robust across several different criteria of performance.

Commitment to the coach refers to the strength of an athlete's internalization of and identification with the coach. It is manifested by: (a) a strong belief in and acceptance of the coach's goals and values; (b) a willingness to exert considerable effort on behalf of the coach; and (c) a strong desire to maintain the athlete-coach relations. As an important focus of commitment, the concept of commitment to a supervisor has drawn increasing attention from researchers in recent years. Becker et al. (1996) suggested that identification with and internalization of the goal and value of a supervisor should be used to form the bases of commitment to the supervisor. Actually, two of the four scales they developed to measure overall commitment to a supervisor are supervisor-related identification and supervisor-related internalization (the other two are organizational identification and organizational internalization).

Trust has been linked to the sense of identity with the authority (Tyler & Degoe, 1996) and internalization of the goal and vision of a supervisor (Zand, 1972) in leader-member relations. It is therefore expected that members with a higher level of trust in a
leader will be more likely to identify with and internalize the vision and the value of the leader, and consequently, have a higher level of commitment to the leader. There is some empirical evidence to support the idea that members’ trust in a leader will reinforce members’ commitment to the leader and the organization. For example, Zand (1972) found that groups with high trust saw themselves as closer and more of a team and had less desire to leave their group to join another.

Commitment has been found to be an important predictor of job performance (e.g. Liou, 1995; Becker et al., 1996). Becker et al. (1996) found that commitment to leaders was more strongly associated with performance than was commitment to organizations. Since monitoring and improving members’ performance is an explicit function of a leader (Yukl, 1989), a leader will be more likely to promote performance norms than will work groups (Becker et al., 1996). Thus, a higher level of commitment to the leader means a higher acceptance of the performance norms and consequently, better performance. In the proposed model, commitment to the coach was posited to influence an athlete’s perceived performance.
CHAPTER 3

METHODOLOGY

The purpose of this chapter is to outline the methodological procedures employed for this study and the testing of the hypotheses proposed in chapter 1. This chapter is divided into six sections: (a) The Type of research; (b) Selection of Sample; (c) Expert Panel Study; (d) Pilot Testing; (e) Instrumentation; (f) Data Collection Procedures; and (g) Data Analysis Procedures.

Type of Research

Research can be classified into two basic categories: quantitative and qualitative research. Quantitative research employs the traditional, the positivist, the experimental, or the empiricist method (Smith, 1983) to inquire into an identified problem, based on testing a theory, measured with numbers, and analyzed using statistical techniques. It emphasizes the objectivity and reproducibility. The goal of quantitative methods is to determine whether the predictive generalizations of a theory hold true. Thus, quantitative research is more concerned with issues of how much, how well, or to whom an issue applies (Fraenkel, & Wallen, 2003). Quantitative research is deductive in nature in which
researchers make inferences based on direct observations or derivatives of the direct observations" with the primary goal "to describe cause and effect" (Kerlinger & Lee, 2000, p.590). By contrast, a study based upon a qualitative process of inquiry has the goal of understanding a social or human problem from multiple perspectives. Thus "qualitative researchers deploy a wide range of interconnected interpretive practices, hoping always to get a better understanding of the subject matter at hand" (Denzin & Lincoln, 2000, p. 4). Qualitative research is conducted in a natural setting and involves a process of building a complex and holistic picture of the phenomenon of interest. Qualitative research is inductive in nature in which researchers focus on delving the issues of interest in depth and details.

It should be noted that quantitative research method is the mainstream in the field of science, as Kerlinger and Lee (2000) observed that most of the research in organizational sciences is quantitative. This also applies to the research on trust in leadership. Given the model testing nature of current study and in following the quantitative trend in research on trust in leadership, current study adopted a quantitative research approach. In the following section, I will concentrate my discussion on quantitative research.

Quantitative research can be classified to either descriptive or experimental research. The purpose of descriptive research is to become more familiar with phenomena, to gain new insights, to formulate a more specific research problem or hypothesis. In contrast, experimental research is to test cause and effect relationships among variables. In descriptive research researchers do not have "direct control over
independent variables because their manifestations have already occurred or because they are inherently not manipulable" (Kerlinger & Lee, 2000, p. 558). Therefore, this type of research cannot be used to establish causal relationship among variables because it always has the risk that the results of the study are caused not by independent variables but something else.

Descriptive research can then be subcategorized as: (a) survey research, such as status studies or exploratory studies; (b) correlational studies, a type of relational research; (c) causal-comparative or Ex Post Facto Studies. Survey research is widely used to determine specific characteristics of groups (Fraenkel & Wallen, 2003) and measure attitudes and opinions of groups toward certain issues (Ary, Jacobs, & Razavei, 2002). Surveys are conducted through various methods including mail, telephone, and personal interviews based on the contents of the questionnaire, numbers of subjects, budget, time available and target response rates. Correlational research is performed to determine relationships among variables, whereas causal-comparative research is intended to detect the case for or the consequences of differences between groups of people (Fraenkel & Wallen, 2003). Correlational research is not different from casual-comparative research because both are based on the relationships among variables (Fraenkel & Wallen, 2003). As aforementioned, both correlational research and causal-comparative research cannot reveal casual relationship among variables due to the lack of manipulation. However, they are effective to explore possible causes or results based on already existing differences among groups (Fraenkel & Wallen, 2003).
Experimental research can be subcategorized as (a) true experiments, (b) quasi-experiments, and (c) pre-experiments. True experiments must meet the following three conditions:

1. Must have at least 2 groups for comparison purposes;
2. Researcher must manipulate the independent variable;
3. Experimental units must be randomly assigned to groups.

It is noted that only true experiments can establish causal relationships between variables. Research that meet the first two of the above three conditions is quasi-experiments. In addition, pre-experimental research is the one that meet only of the above conditions.

The current research, aimed at exploring the variables that influence an athletes’ trust in a coach and the outcomes of the trust, belongs to descriptive research because it does not meet any of the three conditions for experimental research. Given its focuses on model building and testing as well as investigating relationships among variables in the model, the current research falls into correlation research subcategory of descriptive research. In the following, I will discuss the merit of current research in relation to forms of internal validity and external validity.

Internal Validity

When a study has Internal validity, it means that any relationship observed between two or more variables should be meaningful in its own right, rather than being due to something else (Fraenkel & Wallen, 2003). Sources of invalidity include history, maturation, testing, instrumentation, statistical regression, mortality, selection, attitude of
subjects, and implementation (Fraenkel & Wallen, 2003). While some of those sources can be blocked by random sampling and implementation procedures, such as selection, maturation, testing, and implementation, others sources such as history, attitude of subjects, and statistical regression cannot be controlled. Therefore, like all descriptive research, the current study does not have very strong internal validity. Results should be treated with caution.

*External Validity*

External validity, also called generalizability, refers to the extent to which the results of the study are generalizable or applicable to the population (Fraenkel & Wallen, 2003). In detail, external validity involves two types: population and ecological validity (Farenkel & Wallen, 2003). While population validity refers to the generalization of the results to the intended population, ecological validity refers to the generalization to environmental settings beyond the intended population. Campbell and Stanley (1963) also pointed out four major threats to external validity: interaction of testing and independent variables, interaction of selection and independent variables, reactive arrangements, and multiple inferences from multiple independent variables. Threats to external validity can be controlled by using appropriate research design, random sample and assignment, clear operational definitions for variables, and replication of the study in different settings (Ary, et al., 2002).

For the current study, since there is not treatment in this study, the threat of multiple inferences effect does not exit, so does interaction effect of testing and the independent variable. However, the threat of reactive arrangements cannot be controlled
in this study because I cannot keep the settings where members interact with leaders equally. Also, since convenience sampling method was used, the threat of interaction of selection and independent variables was not controlled. These may limit the generalizability of the results.

Selection of Sample

“A sample is a group on which information is obtained; a population is a group to which the results are applied; and sampling is the process to select subjects for the sample from the population” (Fraenkel & Wallen, 2003, p. 96). Sampling is, therefore, a critical step in the research process because it affects how close the samples you draw represent the population. Sampling starts with defining the target population to which the results of the study are aimed to apply; then, identify the accessible population from the target population; and finally draw samples (Ary, et al., 2002). Sampling can be classified into two broad types: random and nonrandom samplings, based on whether or not every subject in the population has an equal chance of being selected. Random sampling methods include simple random sampling, systematic random sampling, stratified random sampling, cluster random sampling, and multistage random sampling. Nonrandom sampling methods include convenience, purposive, and quota sampling.

The current study is to investigate what variables influence an athlete’s trust in a coach and the outcomes of the athlete’s trust in the coach. Thus, athletes are potential population. The target population is college students registered in sport clubs. The accessible population is the college students in the sport clubs of a large Midwest university. Convenience sampling method was applied.
After determining the population, the next consideration in the sampling procedure is sample size. Larger samples, in general, represent populations better than small samples. However, due to constraints on research such as time, money, and accessibility, large sample size is not always possible. Therefore, it is important to determine the minimum sample size required by the research and make sure to at least meet the minimum sample requirement. Otherwise, the results of the research may be questionable. Appropriate sample size is determined by many factors including sampling error accepted, population size, the variance in the population, statistics methods applied, and confidence interval selected (Dillman, 2000).

To determine the proper sample size for current study, I followed Hair, Anderson, Tatham, and Black's (1998) suggestion. Hair et al.’s suggestion of sample size is especially for multiple regression analysis, which is the major statistical technique that would be employed in the current study to explore the moderator effects of propensity to trust on the effects of perceived characteristics on an athlete’s trust in a coach. Another advantage of their method is that, in addition to significance level of the tests, the number of independent variables, and the $R^2$ level explained by the independent variables, they also take into consideration of the statistical power when calculating the minimum sample size. Statistical power “in multiple regression refers to the probability of detecting as statistically significant a specific level $R^2$ or a regression coefficient at a specified significance level for a specific sample size” (Hair et al., 1998). Statistical power is very important because it tells researchers the likelihood of getting the same results when it is repeated and thus build up confidence on the results. According to the
table Hair et al. provided, a sample of at least 100 is needed to detect a minimum $R^2$ value of .12, with a statistical power of .80, at a significance level of .05. However, because a greater sample size can increase the statistical power of the tests, I intended to have more than 200 participants for current study. Therefore, 230 college students registered in sport clubs at a large Midwest university were chosen and invited to participate in the study.

Structural equation modeling was taken into consideration too when I decided the sample of 230 students for the current study. According to rule of thumb, at least three to five cases are required for each estimated parameter in SEM. A sample of 230 cases would meet this requirement for SEM.

*Expert Panel Study*

Most the measures employed in this study to measure different constructs were adapted and/or modified from organizational behavior literature, except perceived performance, which was adopted from Riemer and Chelladurai’s (1998) Athlete Satisfaction Questionnaire. Other items I generated were added to reflect the context of sport. Because of the modification and addition of the measures as well as the change of the context from business settings to sport settings, the measures were then subjected to judgments by a panel of experts. A panel of experts (includes three university faculty members in sport management program, an athletic administrator, two coaches of sport clubs, and eleven second and third years doctoral students in sport management) was asked to examine the questionnaire’s content validity--the extent that the items were relevant to the property being measured (Kerlinger & Lee, 2000). The panel of experts
was, specifically, asked to evaluate the appropriateness of the items assigned to each measure, the repetitiveness of the items, and appropriateness of the items in the context of sport. The panel of experts was also encouraged to propose any new items. Comments made by these individuals were taken into account, and the questionnaire (see Appendix B) was revised based on their suggestions.

According to the recommendations from the panel, several changes were made to the questionnaire. First, the wording of some items was changed to make them clearer. For example, three of the members from the panel of experts recommended that item number six of the measure of commitment to the coach be not clearly stated (see Appendix B). Specifically, one member noted that the item "assumes that all the participants prefer their coaches than others is because of what their coaches stands for. Thus, it is not clear for those who do not prefer their coaches at all". Based on their suggestions, this item was reworded. Second, some items were dropped off because of repetitiveness. For example, item number one and item number four of the measure of commitment to the coach "were essentially the same thing reworded", according to one panel member. Another member recommended to keep just one of the two items. These changes resulted in a different questionnaire for pilot testing.

**Pilot Testing**

No matter how careful a researcher is, questionnaire construction remains an imprecise research procedure. Therefore, it is essential to pilot-test the questionnaire before the actual substantive research take place. Two types of pilot tests are desirable. One type asks individuals, who know and familiar with the area of research interest, to
provide their interpretation and understanding of each item. This assessment will help identify errors in assumptions about participants’ frames of reference. It also helps identify items that are difficult to understand. Pilot tests of this sort can lead at least some changes in the design of a research questionnaire and therefore help obtaining more valid responses to the final questionnaire. The second type of pilot test is similar to a regular research study; a large number of participants, who are preferably like those who will complete the final questionnaire, is desirable. Data from this type of pilot test are used to see if the scales behave as expected. The pilot study of this sort can also be used to assess relationships between items. For example, internal consistency reliability of multi-item measures can be assessed using Cronbach’s alpha.

For the current study, I employed the second type of pilot tests. The pilot test had two purposes. First, Cronbach’s alpha was used to compute reliability coefficient of each component in the questionnaire. This could be viewed as a first step in construct validation of the questionnaire. Those components are: perceived ability, perceived benevolence, perceived integrity, perceived justice, propensity to trust, an athlete’s trust in a coach, commitment to the coach, willingness to cooperate, and perceived performance. Second, it was used to purify the measures. A principal components analysis was employed to determine if the measures could be explained by fewer numbers of items. Changes would be made to the questionnaire based on the results of the second pilot test. And the questionnaire would be finalized for the actual substantive research.
In the pilot testing, the revised questionnaire based on suggestions from the panel of experts along with a cover letter explaining the study was distributed to 43 college students enrolled in the sport clubs at a large university shortly before their regular training time. The students were told that participation in the current study was encouraged, but voluntary. I immediately collected the questionnaire after the students finished filling out the questionnaires. Of the 43 questionnaires returned, 40 were usable and three were not usable because of being incomplete.

Reliability estimates (Cronbach's alpha) were first calculated for all multi-item measures. All reliability estimates were over the .70 cutoff value recommended by Nunnally and Bernstein (1994): perceived ability ($\alpha = .90$), perceived benevolence ($\alpha = .91$), perceived integrity ($\alpha = .90$), perceived justice ($\alpha = .83$), propensity to trust ($\alpha = .71$), trust in the coach ($\alpha = .75$), commitment to the coach ($\alpha = .86$), willingness to cooperate ($\alpha = .83$), perceived individual performance ($\alpha = .81$), and perceived team performance ($\alpha = .76$). Following reliability estimates, a principal components analysis was carried out to determine if the measures could be explained by a fewer number of items.

In following Stevens (1996), factor loadings had to be over .52. All the items had acceptable factor loadings except one item—Item number 27—which had a factor loading of .30. Since it had a factor loading below the cutoff value of .52 recommended by Stevens (1996), the item was omitted in the final questionnaire (see appendix A) used for the substantive study.

In addition to modifying the questionnaire from suggestions from the members of expert panel and statistics results of pilot testing, I also asked the participants, after all
questionnaires were returned, their perceptions of the questionnaire as a whole. The most consistent comments were related to the items used to assess perceived team performance. Some participants of individual sports voiced a concern that the item "My team's win/loss record this season" did not apply to their sports. Based on their suggestion, the item was reworded to be "My team's victories this season".

Instrumentation

Results from the expert panel study and pilot study provided the rationale for the questionnaire used in the current study. All the measure in the questionnaire use a seven-point Likert response scale, except the demographic items, which asked participants to respond to the following questions: (a) years at the university; (b) years in the team; (c) years working with the current coach; (d) ethnicity; (e) gender; (f) sports attended; (g) gender of the coach; (h) ethnicity of the coach; and (i) type of high school attended. The questionnaire contains measures of antecedents of trust, commitment to a coach, willingness to cooperate, and perceived performance. Those are discussed in greater details in the below.

Athlete’s trust in coach was measured by five items. Two items were adapted from Dirks’ (1999) trust in leadership scale. The items are: I can talk freely to the coach about difficulties I am having on the team and I can freely share my ideas, feelings, and hopes with him. Dirks found the correlation r of .84, and .86 for each items respectively. Two items were adapted from Mayer and Davis’ (1999) trust in management scale, which had a very low Cronbach’s alphas of .59 and .60 from two studies. The items were: if I had a choice, I wouldn’t let the coach have any influence over issues that are important to
me (reverse coded) and I would be comfortable giving coach a task or problem that was critical to me, even if I could not monitor his or her actions. The last item was adapted from Podsakoff, Mackenzie, Moorman, and Fetter’s (1989) trust in leader scale, which was: my coach would not try to gain an advantage by deceiving athletes.

The perceived ability, perceived benevolence, perceived integrity, perceived justice of a coach, as well as an athlete’s propensity to trust are proposed as antecedents of an athlete’s trust in a coach.

Perceived ability was measured by five items adapted from Mayer and Davis’ the ability scale (1999). Mayer and Davis found the Cronbach’s alphas for the scale were .85 and .88 for two studies. The examples of the items were: my coach is very capable of performing the coaching job; my coach is known to be successful at the things he/she tries to do; my coach has much knowledge about the work that needs done; I feel very confident about my coach’s skills; and my coach has specialized capabilities that can increase our performance.

Perceived benevolence was measured by five items adapted from Mayer and Davis’ the ability scale (1999). Mayer and Davis found the Cronbach’s alphas for the scale were .87 and .89 for from two studies. The examples of the items were: my coach is concerned about my welfare; my needs and desires are very important to my coach; my coach would not knowingly do anything to hurt me; my coach really looks out for what is important to me; and my coach is willing to go out of the way to help me.

Five items were used to measure perceived fairness. Three items were adapted from Moorman’s (1991) organizational justice scale. The items were: my coach is able
to suppress personal biases; my coach appreciates the work done by every athlete; and
my coach rewards athletes based on their contributions. The other two items were
adapted from Mayer and Davis’ (1999) integrity scale. As stated in chapter 1, Mayer and
Davis conceptualized justice as part of integrity. Thus, two items in their integrity scale
measured perceived justice. The two items were: my coach has a strong sense of justice
and my coach tries to be fair in dealings with athletes.

Five items were used to measure perceived integrity. Three were adapted from
Mayer and Davis’ the integrity scale (1999). They were: I never have to wonder whether
my coach will stick to his/her words; I like my coach’s values; and sound principles seem
to guide my coach’s behavior. The other two items were adapted from Butler’s (1991)
integrity scale. These were: my coach always tells me the truth and my coach deals
honestly with me.

Propensity to trust was measured by five items adapted from Mayer and Davis’
(1999) propensity to trust scale. The items were: one should be very cautious with
strangers; most experts tell the truth about the limits of their knowledge; most people can
be counted on to do what they say they will do; theses days, you must be alert or
someone is likely to take advantage of you; and most people answer public opinion polls
honestly. Mayer and Davis reported that Cronbach’s alphas for the scale were .55 and .66
for the two studies, respectively.
In the proposed model, an athlete’s trust in a coach was posited to influence the athlete’s commitment to the coach, willingness to cooperate with the coach, and through those variables indirectly influence performance. Those outcome variables were measured by adapting existent measures.

Commitment to a coach was measured by using an adapted version of commitment to supervisor scale developed and used by Becker, Billings, and Eveleth (1996). They proposed that identification and internalization should be used to form the bases of commitment to supervisor. Thus, the scale measured both an athlete’s identification with and internalization of a coach. Four items used to measure identification with a coach were: when I talk about my coach, I usually say ‘we’ rather than 'they'; my coach’s successes are my successes; when someone praises my coach, it feels like a personal compliment; and I feel a sense of belonging with my coach. Three items were used to measure internalization with a coach: I prefer what my coach stands for; my attachment to my coach is primarily based on the similarity of my values and those of my coach; and since joining this team, my personal values and those of my coach have become more similar.

Willingness to cooperate was measured by six items. Four of them were adapted from the willingness to cooperate scale developed by Scott, Bishop, and Chen (2003). They found the Cronbach’s alpha for the scale was .83. Their scale, however, was designed to measure the willingness to cooperate with other employees; therefore, changes were made to the wording to make them suitable for the current situation. Besides, I added two items to the scale to reflect an athlete’s willingness to cooperate in
the unique coach-athlete relations. The four items were: I am willing to share information with my coach; I am willing to cooperate with my coach to get the work done; I am willing to communicate with my coach; and cooperate with my coach is the key to my success. The two items added were: I am willing to follow coach’s instructions and I am willing to respond to coach’s feedback about my performance.

Perceived performance was measured by using two sub-dimensions of Athlete Satisfaction Questionnaire (ASQ) (Reimer & Chelladurai, 1998). The two sub-dimensions are individual performance and team performance. One item in the individual performance sub-dimension, which did not apply to the current participants, therefore, was omitted. The strength of these two scales is that both of them should be useful for evaluating performance of team sport athletes as well as individual sport athletes. As Riemer and Chelladurai (1998) suggested, “even the dimensions of team performance may be somewhat relevant, or even important, to individual sport athletes” (p. 150). The examples of the items were: the improvement in my performance over the previous season; the improvement in my skill level thus far; the degree of which I have reached my performance goals during the season; the extent to which the team has met its goals for the season thus far; my team’s victories this season; and the team’s overall performance this season. Riemer and Chelladurai reported that the reliability alphas for the individual performance and team performance scales were .85 and .95, respectively.

Data Collection

A questionnaire containing a cover letter that explained the purpose of the study, the expected amount of time to complete the questionnaire, and the confidentiality of the
responses was developed and administered to students registered in sport clubs. In order to ensure enough repeated interactions between the students and coaches, only the sport clubs that practiced regularly were selected for the current study. The sport clubs included both team sports and individual sports. Team sports included Field hockey club, Women’s rugby club, Men’s rugby club, Softball club, Rowing crew club, and Men’s and Women’s polo club. Individual sports included Judo club, Tangsoo Do Club, Filipino Martial arts club, and Aikido Club.

This study incorporated direct administration survey method in which the researcher went to the sport clubs right before their practice time and ask students to take five to ten minutes to fill the questionnaire. The researcher identified himself as a Ph. D student in sport management of the university. To increase credibility, the university emblem was presented on the cover letter. Despite the purpose of the study, confidentiality, and the expected amount of time to complete the questionnaire were on the cover letter, the researcher verbally explained them too before the questionnaire was administered to the participants. Before and after the survey, the researcher provided the student subjects with verbal appreciations.

Data Analysis

This section describes in detail the specific procedures for analyzing the data collected from the respondents. Computer software--Statistical Package for the Social Sciences (SPSS) Version 11.5 and Amos Version 4.01 were used for data analyses. Data analysis included two types of analyses. The first part describes methods used for any initial analyses performed to investigate and prepare for the main analyses. The second
part describes analysis methods used to investigate the main research questions, which were stated in testable hypotheses in Chapter 1.

These initial analyses included the calculation of descriptive statistics (i.e., means, standard deviations, and distribution frequency) for each of the variables measured. Assessments of scale internal consistency and validity were conducted using Cronbach's alpha. Internal consistency assesses the degree to which an individual’s response is his or her true response. It measures how an individual’s response to a particular item is related to his or her response to a group of items of a similar type. For a questionnaire to be internally consistent, the items of that questionnaire must be highly inter-correlated. The most widely used measure of internal consistency is Cronbach’s coefficient alpha.

Cronbach’s coefficient alpha values vary between .00 and 1.00. There appears to be no general agreement on the cutting off score for Cronbach’s alpha level. Although some (e.g., Carmines & Zeller, 1979) argued that Cronbach’s alpha should not be less than .80 for widely used scales, Gable (1986) and Litwin (1995) argued that a Cronbach alpha of .70 or greater is acceptable for affective measures. Also, there is no general agreement as to what constitutes good or very good levels of Cronbach’s alpha. Gabel suggests that alpha coefficients in the high .80 or above should be considered good, and Cortina (1993) suggest that alpha co-efficients .85 or above are quite good.

Testing the validity of a questionnaire assesses the degree to which the questionnaire measures what is claimed to measure. There are three types of validity with respect to instrument development: (a) content validity, (b) construct validity, and (c) criterion validity (DeVellis, 1991). Content validity refers to the extent to which items
on an instrument adequately represent the intended universe of content (Cronbach, 1971). Content validity is the extent to which a specific set of items reflects a content domain (DeVellis, 1991). Content validity testing in this study included a thorough search of the literature on trust and using of expert panel. Construct validity refers to the extent to which "certain explanatory concepts explain covariation in the responses to the items on the instrument" (Gable, 1986, p.77). For this study, construct validity testing assessed the extent to which the proposed scales actually reflected the underlying constructs. This study employed confirmatory factor analysis for construct validity testing by examining the factor loadings on subsets of items. Criterion-related validity refers to the extent to which an instrument measures some important form of behavior that is external to the measuring instrument itself (Nunnally, 1978). This study did not assess criterion validity because of a lack of relevant criterion variables for measuring abstract social science concepts (Carmines & Zeller, 1979).

The main analyses were to test the proposed theoretical model and investigate relationships between variables in the model through structural equation modeling (SEM). Regression analyses were used to test the moderator effects of propensity to trust on the effects of perceived characteristics of a coach on the athlete’s trust in the coach.

Structural equation modeling (SEM) was applied to test the proposed trust model. Amos 4.01 with maximum likelihood estimation was used for the structural equation analyses. SEM is a comprehensive statistical approach to testing hypotheses about relations among observed and latent variables. The SEM has the advantage over standard
regression analysis of explicitly considering the measurement error in the observed variables and simultaneously estimating a system of structural equations (Hoyle, 1995).

As recommended by Hoyle, I adopted a two-step analytic procedure. First, measurement models were evaluated prior to the estimation of structural models, so as to prevent measurement misspecifications from being misinterpreted as misspecifications of the structural models (Burt, 1976). Since the underlying structure of our measures was clearly established and items of each scale were adapted from previous research, therefore, confirmatory factor analysis (CFA) was employed for these analyses. The CFAs began by examining the measures of each of our nine variables separately, and items that performed poorly were deleted from the measures. The second analytic step was the structural equation analysis of the theoretical models.

Once a model has been estimated, the next task is to evaluate the model fit. A model is said to fit the observed data to the extent that the covariance matrix it implies is equivalent to the observed covariance matrix. The two most common ways of evaluating model fit are the $\chi^2$ goodness-of-fit test and the fit indexes that supplement the $\chi^2$ test (Hu & Bentler, 1995). For the current study, I chose to use a set of fit indexes. There are numerous model fit indexes in current SEM literature. To examine model fit for this study, the Goodness-of-Fit Index (GFI; Bollen, 1989), Normed Fit Index (NFI; Bentler & Bonett, 1980), Incremental Fit Index (IFI; Bollen, 1989), The Tucker-Lewis Index (TLI; Tucker & Lewis, 1973), Comparative Fit Index (CFI; Bentler, 1989), and Root Mean Square Error of Approximation (RMSEA; Steiger & Lind, 1980) were used. The GFI reflects the relative amount of the variances and covariances predicted by the model.
matrix. The NFL provides an indication of how the target model compares with the baseline model. The IFI addresses the issues of parsimony and sample size. The TLI provides an indication of how the model compares with the best possible model. The CFI, taking sample size into account, “indexes the relative reduction in lack of fit as estimated by the noncentral $\chi^2$ of a target model versus a baseline model” (Hoyle, 1995; p, 167). Finally, RMSEA value for a model less .05 is considered an indicator of a “good” fit, while values from .05 to .08 suggest a “fair” fit (Browne & Mels, 1994).

There are two reasons why those indexes were chosen for this study. First, those indexes have been used in numerous studies and have been proven to be stable across various situations. Second, current study had a relatively small sample size. I chose some of the indexes that take sample size into account and adjust for small sample size. For example, Bentler and Bonett’s (1980) NFI has been the practical criterion of choice for the better part of a decade. However, there is addressing evidence that the NFI has shown a tendency to underestimate fit in small samples (Hoyle, 1995). Bentler (1990) revised the NFI to take sample size into account and proposed the CFI. For this study, both of the indexes were chosen. I should note that the significance of a model’s $\chi^2$ statistic was not used to assess its fit. Instead, based upon the recommendations of Gerbing and Anderson (1992) and Marsh, Balla, and McDonald (1988), I used the fit indices mentioned above.

If the model fit indexes indicated acceptable overall fit of the proposed model, then I would move to interpret specific elements of fit—the parameter estimates. Even sometime a model has a good fit, there may be some of the parameter estimates beyond
their logical bounds. This suggested that some of the model specifications might have been flawed (Bollen, 1989). For example, some items have an error variance greater than 0.5. Error variances can be viewed as consisting partly of random error and partly of systematic error that is not explained by the variables in the model. Parameter estimates of the error variances indicate the extent to which items have variances associated with something other than the common factor (i.e., error). If error variance is greater than 0.5, it means that the item should related closer to other factor rather than the target factor. Thus, the item should be reevaluated for inclusion. The reevaluation of such items includes the assessment of their standardized loadings (i.e., standardized regression weights). If the standardized loading of an item is below, 0.52, the cutoff value for factor loadings recommended by Stevens (1996), the item might be omitted.

While removal of problematic items and respecification may result in a better fit, Bollen (1989) caution against reducing the number of indicators of a common factor to less than three. More important, any omission and respecification must be made based on the fact that changes should be conceptually defensible (Bollen, 1989; Holye, 1995).

Following the interpretation of the parameter estimates is the interpretation of the direction of relations between variables. Holye (1995) stated, “the most challenging and poorly understood aspect of interpreting SEM results concerns not the magnitude or direction of relations between variables but, rather, the nature of those relations” (p, 9). In fact, SEM cannot test causality with nonexperimental data. “The literature on equivalent models provides the most compelling demonstration of the inability of SEM to establish directionality” (Hoyle, 1995, p, 175). This is because in many models, change
the direction of the relation between two variables does not change either the overall fit
of the model or the parameter estimate of the relation between the variables (Hoyle, 1995). Therefore, the results of SEM may suggest a possible causal relation, but cannot
prove a causal relation.
CHAPTER 4

RESULTS

This chapter contains the results of the quantitative data analysis procedures conducted for this study. The instrument contained items to measure an athlete’s trust in his/her coach and the athlete’s propensity to trust among college students registered in sport clubs. Other items were included to measure proposed antecedents (i.e., perceived ability, perceived benevolence, perceived justice, and perceived integrity) and consequences (i.e., commitment to the coach, willingness to cooperate, and perceived performance) of an athlete’s trust in the coach.

The results of this study are presented in four sections. The first section contains the general statistical information of the variables in this study, such as sample characteristics, means, standard deviations, and Pearson product-moment intercorrelations among the variables. The second section contains the results of testing the measurement model using confirmatory factor analysis (CFA). The reliability analyses of all multi-item variables (i.e., the nine refined variables produced by the CFA
measurement model testing) are provided in the third section. Finally, the fourth section presents the two models tested and the hypothetical relationships among variables in the model.

General Statistical Information

Sample Characteristics

Data were collected from 230 college students registered in sport clubs. 15 responses had to be discarded due to incomplete data, resulting in a final usable sample size of 215. As seen in Table 4.1, 51% of the participants were males, while 48% were females. The sample included nearly 2% African-Americans, 5% Asian Americans, 85% Caucasians/Whites, 4% Hispanic, less than 1% Native Americans, and 2% listed as Other. Since coach-player relation was the focus of the study, I measured how many years a player was under his/her coach’s leadership. A total of 55% of the participants were instructed by their coach for one or less than one year, 16% of the participants were instructed for more than one but less than two years, 17% of the participants were instructed for more than two but less than three years, and 10% of the participants were instructed for more than three but equal or less than four years. The mean of years of the participants under coach’s leadership was 1.89 years (SD=1.52).
<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>110</td>
<td>51.2</td>
</tr>
<tr>
<td>Female</td>
<td>105</td>
<td>48.8</td>
</tr>
<tr>
<td>Ethnicity/Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>African-American</td>
<td>4</td>
<td>1.9</td>
</tr>
<tr>
<td>Asian-American</td>
<td>12</td>
<td>5.6</td>
</tr>
<tr>
<td>Caucasian/White</td>
<td>184</td>
<td>85.6</td>
</tr>
<tr>
<td>Hispanic</td>
<td>9</td>
<td>4.2</td>
</tr>
<tr>
<td>Native American</td>
<td>1</td>
<td>.5</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>2.3</td>
</tr>
<tr>
<td>Years (N) Under the Coach’s Leadership</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N≤1</td>
<td>120</td>
<td>55.8</td>
</tr>
<tr>
<td>1&lt;N≤2</td>
<td>36</td>
<td>16.8</td>
</tr>
<tr>
<td>2&lt;N≤3</td>
<td>37</td>
<td>17.3</td>
</tr>
<tr>
<td>3&lt;N≤4</td>
<td>22</td>
<td>10.1</td>
</tr>
</tbody>
</table>

Table 4.1: Demographic characteristics of the sample.

Descriptive Statistics and Bivariate Correlations

The means, standard deviations, and Pearson product-moment intercorrelations among the nine variables refined by the CFA are provided in Table 4.2. In this table, Propensity refers to an athlete’s propensity to trust, Commit refers to an athlete’s commitment to the coach, Willingness refers to an athlete’s willingness to cooperate with his/her coach, and Performance refers to an athlete’s satisfaction with his/her individual performance and the team performance.

Some of the correlations shown in Table 4.2, however, did raise concerns about multicolinearity and the suitability of the data for structural equations modeling. For example, the correlations between justice and ability, justice and benevolence, and
integrity and justice were .70, .79, and .70, respectively. To assess multicolinearity among the measured variables, the rule of thumb for bivariate relationships proposed by Rockwell (1975) was used. According to Rockwell, only when bivariate correlations exceed .80 should independent variable interdependence be considered excessive. In the current study even though some of the bivariate correlations mentioned above were close, but did not exceed the .80 rule of thumb. Moreover, it is more important to employ procedures, which control for statistical interdependencies than to use measures which are statistically independent but which are theoretically questionable (House, 1996). Thus, the use of structural equations modeling was reasonable.
<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.Trust</td>
<td>5.60</td>
<td>1.11</td>
<td>----</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.Propensity</td>
<td>3.59</td>
<td>1.45</td>
<td>.39</td>
<td>----</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.Ability</td>
<td>6.30</td>
<td>.85</td>
<td>.53</td>
<td>**</td>
<td>.60</td>
<td>----</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.Benevolence</td>
<td>5.93</td>
<td>.90</td>
<td>.59</td>
<td>**</td>
<td>-.01</td>
<td>.63</td>
<td>----</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.Justice</td>
<td>5.94</td>
<td>1.04</td>
<td>.55</td>
<td>**</td>
<td>.03</td>
<td>.70</td>
<td>.79</td>
<td>----</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.Integrity</td>
<td>5.68</td>
<td>.79</td>
<td>.43</td>
<td>**</td>
<td>-.03</td>
<td>.49</td>
<td>.61</td>
<td>.70</td>
<td>----</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.Commit</td>
<td>5.21</td>
<td>1.08</td>
<td>.68</td>
<td>**</td>
<td>-.05</td>
<td>.55</td>
<td>.59</td>
<td>.55</td>
<td>.42</td>
<td>----</td>
<td></td>
</tr>
<tr>
<td>8.Willingness</td>
<td>6.26</td>
<td>.60</td>
<td>.60</td>
<td>**</td>
<td>-.10</td>
<td>.49</td>
<td>.53</td>
<td>.54</td>
<td>.38</td>
<td>.59</td>
<td>----</td>
</tr>
<tr>
<td>9.Performance</td>
<td>5.63</td>
<td>.93</td>
<td>.52</td>
<td>**</td>
<td>.16</td>
<td>.56</td>
<td>.52</td>
<td>.49</td>
<td>.38</td>
<td>.50</td>
<td>.35</td>
</tr>
</tbody>
</table>

** indicates P<.01

Table 4.2: Variable Means, Std. Deviation, and Correlations.

Measurement Model Testing

One of the reasons why the structural equation modeling (SEM) technique was chosen for this study is that SEM can be used to refine measures by conducting measurement model testing through confirmatory factor analysis (CFA). CFA can provide initial evidence of the instrument’s validity. Since most measures used in this study were adapted from business literature and modified to fit into the context of sport, the employment of CFA may further validate those measures. Furthermore, the measurement models were evaluated prior to the estimation of structural models, so as to prevent measurement misspecifications from being misinterpreted as misspecifications of the structural models (Burt, 1976).
A CFA was run on each of the measurement models: perceived characteristics of the coach (i.e., perceived ability, perceived benevolence, perceived justice, perceived integrity), propensity to trust, commitment to the coach, willingness to cooperate with the coach, and perceived performance. The overall fit of all the models were “fair” to “good.” However, some of the parameter estimates were beyond their logical bounds. This suggested that some of the model specifications might have been flawed (Bollen, 1989). For example, some items had an error variance greater than .5. Error variance can be viewed as consisting partly of random error and partly of systematic error that is not explained by the variables in the model. Parameter estimates of the error variance indicate the extent to which items have variances associated with something other than the common factor (i.e., error). If the error variance is greater than .5, it means that the item should be related closer to other factors rather than the common factor. Thus, the item should be reevaluated for inclusion. The reevaluation of such items includes the assessment of their standardized loadings (i.e., standardized regression weights). If the standardized loading of an item was below .52, the cutoff value for factor loadings recommended by Stevens (1996), the item be omitted.

While removal of problematic items and respecification may result in a better fit, I was also guided by Bollen’s (1989) caution against reducing the number of indicators of a common factor to less than three. More importantly, any omission and respecification were made with the overriding concern that changes should be conceptually defensible (Holye, 1995).
As explained in the Methodology Chapter, there are numerous model fit indexes in current SEM literature. To examine model fit for this study, the Goodness-of-Fit Index (GFI; Bollen, 1989), Normed Fit Index (NFI; Bentler & Bonett, 1980), Incremental Fit Index (IFI; Bollen, 1989), The Tucker-Lewis Index (TLI; Tucker & Lewis, 1973), Comparative Fit Index (CFI; Bentler, 1989), and Root Mean Square Error of Approximation (RMSEA; Steiger & Lind, 1980) were used. The GFI reflects the relative amount of the variances and covariances predicted by the model matrix. The NFL provides an indication of how the target model compares with the baseline model. The IFI addresses the issues of parsimony and sample size. The TLI provides an indication of how the model compares with the best possible model. The CFI, taking sample size into account, “indexes the relative reduction in lack of fit as estimated by the noncentral $\chi^2$ of a target model versus a baseline model” (Hoyle, 1995; p, 167). With respect to the cutoff values of the various fit indices above, it should be noted that the .90 or higher convention first suggested by Bentler and Bonnet (1980) has become the de facto standard in the field (Medsker, Williams, & Holahan, 1994). Finally, the RMSEA value for a model less .05 is considered an indicator of a “good” fit, while values from .05 to .08 suggest a “fair” fit (Browne & Mels, 1994).

I should note that the significance of a model’s $\chi^2$ statistic was not used to assess its fit. Instead, based upon the recommendations of Gerbing and Anderson (1992) and Marsh, Balla, and McDonald (1988), I used the fit indices mentioned above. Based on the final results of the confirmatory factor analysis, model Goodness-of-Fit indicators for all the measurement models suggest a “fair” to “good” model fit. The Goodness-of-Fit
indicators are provided in Table 4.3. In the following, the obtained results are presented for each measure separately.

<table>
<thead>
<tr>
<th>Measurement Model</th>
<th>$\chi^2$</th>
<th>df</th>
<th>NFI</th>
<th>IFI</th>
<th>TLI</th>
<th>GFI</th>
<th>CFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Characteristics</td>
<td>174.99</td>
<td>81</td>
<td>0.93</td>
<td>0.96</td>
<td>0.94</td>
<td>0.90</td>
<td>0.96</td>
<td>0.07</td>
</tr>
<tr>
<td>Propensity</td>
<td>6.64</td>
<td>1</td>
<td>0.99</td>
<td>0.99</td>
<td>0.98</td>
<td>0.99</td>
<td>0.99</td>
<td>0.03</td>
</tr>
<tr>
<td>Trust</td>
<td>2.30</td>
<td>1</td>
<td>0.98</td>
<td>0.99</td>
<td>0.98</td>
<td>0.99</td>
<td>0.99</td>
<td>0.07</td>
</tr>
<tr>
<td>Commitment</td>
<td>7.64</td>
<td>5</td>
<td>0.97</td>
<td>0.99</td>
<td>0.98</td>
<td>0.98</td>
<td>0.99</td>
<td>0.05</td>
</tr>
<tr>
<td>Willingness</td>
<td>10.92</td>
<td>5</td>
<td>0.95</td>
<td>0.97</td>
<td>0.95</td>
<td>0.98</td>
<td>0.97</td>
<td>0.07</td>
</tr>
<tr>
<td>Performance</td>
<td>37.24</td>
<td>8</td>
<td>0.94</td>
<td>0.95</td>
<td>0.91</td>
<td>0.94</td>
<td>0.95</td>
<td>0.08</td>
</tr>
</tbody>
</table>

Note: The models are labeled as follows. Antecedents=antecedents of trust, which includes perceived ability, perceived benevolence, perceived justice, and perceived integrity of a coach. Trust=trust in the coach. Commitment=commitment to the coach. Willingness=willingness to cooperate. Propensity=propensity to trust.

Table 4.3: Model Goodness-of-Fit Indicators for Measures.

The Antecedents of Trust Measurement Model

The twenty items comprising the antecedent of trust measurement model were reduced to fifteen items after examining the parameter estimates generated by CFA. The five items were omitted from further analysis because of out-of-range parameter estimates. For example, item seven used to measure benevolence had an error variance of 1.39, which is much higher than the cutoff value of .5. This suggested that this item had a higher factor loading on other factors. The reassessment of this item for inclusion revealed that it had a standardized loading of .48, below .52, the cutoff value for factor loadings recommended by Stevens (1996). This confirmed the information provided by
the out-of-range error variance and suggested that the item was inappropriate for inclusion, and then be eliminated. The reanalysis of the model (see Figure 4.1) after the elimination of the five items showed a fully acceptable model fit. The NFI, TLI, and GFI equaled or exceeded the .90 standard. The IFI and GFI exceeded .95, suggesting a good fit. Finally, RMSEA was .07 (90% C.I.=.08-.05), suggesting this measure was “fair” (see Table 4.3 for model fit indexes).

Figure 4.1: The antecedents of trust measurement model.
Propensity to Trust Measurement Model

The seven items comprising the measurement model were reduced to five items. Reanalysis of the data after the elimination of the two out-of-range items revealed that all the fit indexes were higher than .95, suggesting a good fit, with a RMSEA of .07 (see Table 4.3). The final measurement model is provided in Figure 4.2.

Athlete’s Trust in a Coach Measurement Model

The five items comprising the measurement model were reduced to three items. Reanalysis of the data after the elimination of the two out-of-range items revealed that all the fit indexes was higher than .95, suggesting a good fit, with a RMSEA of .07 (see Table 4.3). The final measurement model is provided in Figure 4.3.

![Propensity to trust measurement model](image)

Figure 4.2: Propensity to trust measurement model.

![Trust in the coach measurement model](image)

Figure 4.3: Trust in the coach measurement model.
Willingness to Cooperate Measurement Model

One item was eliminated from the measurement model. Reanalysis of the data after the elimination of the one out-of-range item showed that all the fit indexes equaled or exceeded .95, suggesting a good fit, with a RMSEA of .07 (see Table 4.3). The final measurement model is provided in Figure 4.4.

Commitment to a Coach Measurement Model

The seven items comprising the measurement model were reduced to five items. Reanalysis of the data after the elimination of the two out-of-range items resulted in all the fit indexes higher than .95, suggesting a good fit, with a RMSEA of .05 (see Table 4.3). The final measurement model is provided in Figure 4.5.

Perceived Performance Measurement Model

The six items perceived performance measure showed a fair fit. All the fit indexes exceeded .90. The RMSEA value was .08 (see Table 4.3), which was slightly higher. However, if taking all the fit indexes into consideration, this measurement can be viewed to be a fair fit. The final measurement model is provided in Figure 4.6.
Figure 4.4: Willingness to cooperate measurement model.

Figure 4.5: Commitment to the coach measurement model.
Figure 4.6: Perceived performance measurement model.

After determining that all the measurement models had a good to fair model fit, the next step was to examine the parameters included in the models. For a measurement model, the most important parameters are the standardized regression weights (i.e., standardized factor loadings), which reflect the factor loading on each item. The standardized regression weights of each item for all the measures are provided in Table 4.4. All items except one had a standardized loading bigger than .52, the cutoff value for factor loadings recommended by Stevens (1996). This suggested a good factor loading. The only item, which had a factor loading lower than what Stevens’ suggestion, was V40, which was used to measure an athlete’s willingness to cooperate with his/her coach. It had a factor loading of .43. There were three reasons why I kept this item even through it
did not meet the .52 cutoff value. First, many researchers have cautioned (e.g., Bollen, 1989; Holye, 1995) that elimination of any indicators should be theoretically defensible. I felt this item was very important because it measures an athlete’s general attitude towards cooperation with his/her coach. Therefore, elimination of this item was not theoretically defensible. Second, this item had proven to be reliable in previous studies (e.g., Scott, Bishop, & Chen, 2003). Third, a principal component factor analysis showed that this item had a loading of .55. When taking all these into consideration, I felt it was better not to eliminate this item from future analysis.
<table>
<thead>
<tr>
<th>Measures and Number of Items</th>
<th>Standardized loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Ability</td>
<td></td>
</tr>
<tr>
<td>v3</td>
<td>0.70</td>
</tr>
<tr>
<td>v4</td>
<td>0.78</td>
</tr>
<tr>
<td>v6</td>
<td>0.79</td>
</tr>
<tr>
<td>v14</td>
<td>0.85</td>
</tr>
<tr>
<td>v17</td>
<td>0.77</td>
</tr>
<tr>
<td>Perceived Benevolence</td>
<td></td>
</tr>
<tr>
<td>v1</td>
<td>0.78</td>
</tr>
<tr>
<td>v5</td>
<td>0.79</td>
</tr>
<tr>
<td>v9</td>
<td>0.82</td>
</tr>
<tr>
<td>v20</td>
<td>0.61</td>
</tr>
<tr>
<td>Perceived Justice</td>
<td></td>
</tr>
<tr>
<td>v11</td>
<td>0.86</td>
</tr>
<tr>
<td>v12</td>
<td>0.92</td>
</tr>
<tr>
<td>v18</td>
<td>0.75</td>
</tr>
<tr>
<td>Integrity</td>
<td></td>
</tr>
<tr>
<td>v13</td>
<td>0.81</td>
</tr>
<tr>
<td>v15</td>
<td>0.78</td>
</tr>
<tr>
<td>v19</td>
<td>0.79</td>
</tr>
<tr>
<td>Trust in the coach</td>
<td></td>
</tr>
<tr>
<td>v42</td>
<td>0.79</td>
</tr>
<tr>
<td>v35</td>
<td>0.83</td>
</tr>
<tr>
<td>v30</td>
<td>0.68</td>
</tr>
<tr>
<td>Propensity to trust</td>
<td></td>
</tr>
<tr>
<td>V25(Recoded)</td>
<td>0.69</td>
</tr>
<tr>
<td>v33</td>
<td>0.99</td>
</tr>
<tr>
<td>v36(Recoded)</td>
<td>0.53</td>
</tr>
<tr>
<td>v38</td>
<td>0.77</td>
</tr>
<tr>
<td>Commitment to the coach</td>
<td></td>
</tr>
<tr>
<td>v23</td>
<td>0.65</td>
</tr>
<tr>
<td>v28</td>
<td>0.80</td>
</tr>
<tr>
<td>v31</td>
<td>0.54</td>
</tr>
<tr>
<td>v39</td>
<td>0.73</td>
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<tr>
<td>v41</td>
<td>0.74</td>
</tr>
</tbody>
</table>

Continued

Table 4.4: Standardized regression weights of each item of all the measures.
Table 4.4 continued

<table>
<thead>
<tr>
<th>Willingness to cooperate</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>v40</td>
<td>0.43</td>
</tr>
<tr>
<td>v34</td>
<td>0.57</td>
</tr>
<tr>
<td>v29</td>
<td>0.83</td>
</tr>
<tr>
<td>v26</td>
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<tr>
<td>v24</td>
<td>0.68</td>
</tr>
</tbody>
</table>

<table>
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<td>Individual Performance</td>
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</tr>
<tr>
<td>V50</td>
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</tr>
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<td>V54</td>
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</tr>
<tr>
<td>V58</td>
<td>0.72</td>
</tr>
<tr>
<td>Team Performance</td>
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</tr>
<tr>
<td>V47</td>
<td>0.85</td>
</tr>
<tr>
<td>V51</td>
<td>0.80</td>
</tr>
<tr>
<td>V55</td>
<td>0.82</td>
</tr>
</tbody>
</table>
Reliability Estimates

The reliability estimates (Cronbach’s alpha) for the four antecedents of trust (i.e., perceived ability, perceived benevolence, perceived justice, perceived integrity), propensity to trust, and the three consequences of trust (i.e., commitment to the coach, willingness to cooperate with the coach, and the perceived individual performance and team performance) are reported in Table 4.5. As can be seen in Table 4.5, Reliability estimates for all multi-items variables were above the cutoff of .70 (Nunnally & Bernstein, 1994): perceived ability ($\alpha=.89$), perceived benevolence ($\alpha=.82$), perceived justice ($\alpha=.87$), perceived Integrity ($\alpha=.87$), propensity to trust ($\alpha=.82$), trust in a coach ($\alpha=.80$), commitment to the coach ($\alpha=.75$), willingness to cooperate ($\alpha=.74$), perceived individual performance ($\alpha=.82$), and perceived team performance ($\alpha=.86$). Therefore, the reliabilities of the measures are quite satisfactory—both in general (cf. Nunnally & Bernstein, 1994) and for structural equation modeling in particular (cf. Bollen, 1989).
Antecedents

Perceived Ability (5 Items) .89
Perceived Benevolence (4 Items) .82
Perceived Justice (3 Items) .87
Perceived Integrity (3 Items) .84
Propensity to Trust (4 Items) .85
Trust in a coach (3 Items) .80

Consequences

Commitment to the Coach (5 Items) .75
Willingness to Cooperate (5 Items) .71

Perceived Performance

Individual Performance (3 Items) .82
Team Performance (3 Items) .86

Table 4.5: Reliability estimates for all multi-items variables.

Structural Model Testing

The second analytic step was to assess the hypothesized model. The CFA run at the first step examined measurement models and ruled out the possibility that misspecification of the measurement model influenced the assessment of the structural equation model. Because the sample size was relatively small and the whole hypothesized model was big, I divided the whole hypothesized model into two parts and tested each part of the model at a time. These two parts can be viewed as two independent models. The first model was the antecedents of trust, which focused on the antecedents that influence an athlete’s trust in his/her coach. The second model—consequences of an athlete’s trust in the coach--focused on outcome variables on which an athlete’s trust in
the coach will have an effect. In the following, the results for each model would be provided in detail.

*Model of Antecedents of trust*

The model (see Figure 4.7), with 171 distinct sample moments and 49 distinct parameters to be estimated, had degrees of freedom of 122. The first step to assess a model is to look at the model fit indexes (Hoyle, 1995). Chi-square statistic ($\chi^2$ (122) = 236.28; p < .000) for the model indicated that the hypothesis that the model fits the data was rejected. However, given the fact that chi-square is sensitive to the sample size, $\chi^2$/df was used to adjust the sample size effects. The value for $\chi^2$/df was 1.9, below the suggested cutoff value of 3.0. Therefore, after adjusting the sample size effect, $\chi^2$/df indicated that the model had a good fit.

All of the model fit indexes, except GFI (.89), exceeded .90 standard in the field (Medsker, Williams, & Holahan, 1994). It has to be noted that the GFI reflects the relative amount of the variances and covariances predicted by the model matrix and, like chi-square score, does not control for sample size effect. Therefore, its information should be taken with caution. Of all the fit indexes employed, the IFI and the CFI take the sample size into consideration when examining model fit. The IFI addresses the issues of parsimony and sample size. The CFI "indexes the relative reduction in lack of fit as estimated by the noncentral $\chi^2$ of a target model versus a baseline model" (Hoyle, 1995; p, 167). The IFI was .959 and the CFI .958. Both were higher than .95, suggesting a good model fit.
In addition to those model fit indexes, RMSEA was used to assess model fit. RMSEA was .06. As mentioned before, RMSEA with a value less than .05 indicates a close fit, values ranging from .05 to .08 are reasonable errors of approximation in the population, and value of 0.0 indicates a perfect fit into the data (Browne & Cudeck, 1993). Since the use of the confidence interval of RMSEA has been recommended, this study used the 90% confidence interval that AMOS output provided. The RMSEA lower bound was .053 and the RMSEA upper bound was .079, located within the .05 to .08 reasonable ranges.

In summary, the values of two indexes—chi-square and GFI—were not desirable. However, these were more likely influenced by sample size. When sample size being taken under control, IFI and CFI demonstrated a good fit. In addition, other indexes (i.e., NFI, TLI, and MRSEA) indicated a fair model fit. Taking the set of indexes into consideration, I concluded that the model of antecedents of trust had a fair fit with the data.
Figure 4.7: Structural equation model of Antecedents of trust

The second procedure in assessing a hypothesized model is to assess the adequacy of the parameter estimates (Hoyle, 1995). In this procedure, there are three concerns: (a) the feasibility of the parameter estimates, (B) the appropriateness of the standard errors, and (c) the statistical significance of the parameter estimates. Byrne (2001) suggested that feasibility of the parameter estimates included the examination of three aspects: unreasonable estimates are correlations > 1.00, negative variances, and covariance or correlation matrices that are not positive definite. Byrne also pointed out that the presence of standard errors that are excessively large or small is another indicator of poor model fit. However, there is not any widely held criterion to decide whether or not a
standard error is excessively large or small in the field (Joreskog & Sorbom, 1989). For the current study, only standard errors that are close to either '0' or '1' are considered problematic. In the next step, statistical significance of parameter estimates needed to be examined. Statistical significance of parameter is determined by the critical ratio (C. R.) that represents the parameter estimate divided by its standard error. Based on the level of .05, the test statistic needs to be greater than +-1.96. The parameter estimates for the antecedents of trust model were reported in terms of covariances and correlations, variances, and regression weights in Table 4.6, 4.7, and 4.8 separately.

<table>
<thead>
<tr>
<th>Label</th>
<th>Estimate</th>
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<th>C.R.</th>
<th>P</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability &lt;--&gt; Integrity</td>
<td>0.512</td>
<td>0.073</td>
<td>7.042</td>
<td>0.000</td>
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</tr>
<tr>
<td>Benevolence &lt;--&gt; Integrity</td>
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<td>0.087</td>
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<td>0.887</td>
</tr>
<tr>
<td>Justice &lt;--&gt; Integrity</td>
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<td>0.000</td>
<td>0.946</td>
</tr>
<tr>
<td>Ability &lt;--&gt; Justice</td>
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<td>0.079</td>
<td>7.004</td>
<td>0.000</td>
<td>0.767</td>
</tr>
<tr>
<td>Benevolence &lt;--&gt; Justice</td>
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<td>0.097</td>
<td>7.814</td>
<td>0.000</td>
<td>0.872</td>
</tr>
<tr>
<td>Ability &lt;--&gt; Benevolence</td>
<td>0.423</td>
<td>0.063</td>
<td>6.684</td>
<td>0.000</td>
<td>0.761</td>
</tr>
<tr>
<td>e18 &lt;--&gt; e19</td>
<td>0.246</td>
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<td>5.498</td>
<td>0.000</td>
<td>0.453</td>
</tr>
<tr>
<td>e3 &lt;--&gt; e4</td>
<td>0.202</td>
<td>0.038</td>
<td>5.306</td>
<td>0.000</td>
<td>0.489</td>
</tr>
<tr>
<td>e20 &lt;--&gt; e19</td>
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<td>0.045</td>
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<td>0.000</td>
<td>0.285</td>
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Table 4.6: Covariances and correlations of the antecedents of trust model.
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<th>C.R.</th>
<th>P</th>
</tr>
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<tbody>
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<td>Benevolence</td>
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<td>0.101</td>
<td>6.614</td>
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<tr>
<td>Justice</td>
<td>1.129</td>
<td>0.145</td>
<td>7.807</td>
<td>0.000</td>
</tr>
<tr>
<td>Integrity</td>
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<td>7.070</td>
<td>0.000</td>
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<td>5.070</td>
<td>0.000</td>
</tr>
<tr>
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<td>0.049</td>
<td>9.108</td>
<td>0.000</td>
</tr>
<tr>
<td>e4</td>
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<td>0.044</td>
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<td>8.412</td>
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</tr>
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<td>0.034</td>
<td>7.345</td>
<td>0.000</td>
</tr>
<tr>
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<td>0.054</td>
<td>8.580</td>
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</tr>
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<td>8.579</td>
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</tr>
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</tr>
<tr>
<td>e9</td>
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<td>8.039</td>
<td>0.000</td>
</tr>
<tr>
<td>e20</td>
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<td>9.647</td>
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</tr>
<tr>
<td>e11</td>
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<td>0.048</td>
<td>8.066</td>
<td>0.000</td>
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<tr>
<td>e12</td>
<td>0.188</td>
<td>0.033</td>
<td>5.628</td>
<td>0.000</td>
</tr>
<tr>
<td>e18</td>
<td>0.539</td>
<td>0.058</td>
<td>9.346</td>
<td>0.000</td>
</tr>
<tr>
<td>e13</td>
<td>0.429</td>
<td>0.051</td>
<td>8.470</td>
<td>0.000</td>
</tr>
<tr>
<td>e15</td>
<td>0.430</td>
<td>0.048</td>
<td>8.904</td>
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</tr>
<tr>
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<td>0.546</td>
<td>0.062</td>
<td>8.859</td>
<td>0.000</td>
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<tr>
<td>e42</td>
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<td>0.112</td>
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<tr>
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<td>0.787</td>
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<td>8.319</td>
<td>0.000</td>
</tr>
<tr>
<td>e35</td>
<td>0.534</td>
<td>0.088</td>
<td>6.074</td>
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Table 4.7: Variances of the antecedents of trust model.
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<td>Trust &lt;-- Ability</td>
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<td>0.026</td>
<td>3.209</td>
<td>0.026</td>
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<td>Trust &lt;-- Benevolence</td>
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<td>0.272</td>
<td>3.214</td>
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<tr>
<td>Trust &lt;-- Justice</td>
<td>0.110</td>
<td>0.334</td>
<td>2.328</td>
<td>0.043</td>
<td>0.109</td>
</tr>
<tr>
<td>Trust &lt;-- Integrity</td>
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<td>0.484</td>
<td>0.037</td>
<td>0.970</td>
<td>0.015</td>
</tr>
<tr>
<td>v3 &lt;-- Ability</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v4 &lt;-- Ability</td>
<td>1.144</td>
<td>0.076</td>
<td>15.022</td>
<td>0.000</td>
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<td>v6 &lt;-- Ability</td>
<td>1.277</td>
<td>0.117</td>
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<td>0.796</td>
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<td>v14 &lt;-- Ability</td>
<td>1.200</td>
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<td>11.608</td>
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<tr>
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<td>1.266</td>
<td>0.118</td>
<td>10.734</td>
<td>0.000</td>
<td>0.783</td>
</tr>
<tr>
<td>v1 &lt;-- Benevolence</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v5 &lt;-- Benevolence</td>
<td>1.197</td>
<td>0.097</td>
<td>12.325</td>
<td>0.000</td>
<td>0.794</td>
</tr>
<tr>
<td>v9 &lt;-- Benevolence</td>
<td>1.129</td>
<td>0.088</td>
<td>12.790</td>
<td>0.000</td>
<td>0.819</td>
</tr>
<tr>
<td>v20 &lt;-- Benevolence</td>
<td>0.839</td>
<td>0.090</td>
<td>9.316</td>
<td>0.000</td>
<td>0.625</td>
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<tr>
<td>v11 &lt;-- Justice</td>
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<td></td>
<td></td>
<td></td>
<td>0.864</td>
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<tr>
<td>v12 &lt;-- Justice</td>
<td>1.007</td>
<td>0.053</td>
<td>18.948</td>
<td>0.000</td>
<td>0.927</td>
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<tr>
<td>v18 &lt;-- Justice</td>
<td>0.801</td>
<td>0.060</td>
<td>13.436</td>
<td>0.000</td>
<td>0.757</td>
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<tr>
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<td>1.000</td>
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<td></td>
<td></td>
<td>0.815</td>
</tr>
<tr>
<td>v15 &lt;-- Integrity</td>
<td>0.890</td>
<td>0.069</td>
<td>12.929</td>
<td>0.000</td>
<td>0.780</td>
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<tr>
<td>v19 &lt;-- Integrity</td>
<td>1.060</td>
<td>0.079</td>
<td>13.346</td>
<td>0.000</td>
<td>0.797</td>
</tr>
<tr>
<td>v42 &lt;-- Trust</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td>0.762</td>
</tr>
<tr>
<td>v30 &lt;-- Trust</td>
<td>0.826</td>
<td>0.085</td>
<td>9.664</td>
<td>0.000</td>
<td>0.707</td>
</tr>
<tr>
<td>v35 &lt;-- Trust</td>
<td>0.985</td>
<td>0.091</td>
<td>10.839</td>
<td>0.000</td>
<td>0.823</td>
</tr>
</tbody>
</table>

Table 4.8: Regression Weights and standardized regression weights for the model of antecedents of trust.

As Tables 4.6, 4.7, and 4.8 show, there were no correlations greater than 1.00, no negative variances, and no covariance or correlation matrices that were not positive definite. Thus, the parameter estimates were feasible and appropriate. In terms of the statistical significance of the parameter estimates as suggested by the p value, only the path from perceived integrity ➔ trust in the coach (p (0.97)>0.05) was nonsignificant.
suggesting this parameter was not important to the model. All of the standard errors were within a reasonable range from .03 to .48. An athlete’s trust in the coach had a squared multiple correlation of .524, suggesting that the perceived characteristics of the coach explained 52% of the variance in an athlete’s trust in the coach.

The third procedure is to access the hypothesized relationships among the variables in the model. Hypothesis 1 predicted that an athlete’s perception of the coach’s ability would have a positive and unique effect on the athlete’s trust in the coach. As seen in Table 4.8, the standardized beta weight of perceived ability ($\beta = .173. \ P < .05$) was positive, suggesting that perceived ability had a significant positive and unique effect on an athlete’s trust in the coach. Thus, hypothesis 1 was supported. Hypothesis 2 predicted that an athlete’s perception of the coach’s benevolence would have a positive and unique effect on the athlete’s trust in the coach. Results in Table 4.8 revealed that this hypothesis was supported ($\beta = .665. \ P < .01$). Hypothesis 3 predicted that an athlete’s perception of the coach’s justice would have a positive and unique effect on the athlete’s trust in the coach. As seen in Table 4.8, the standardized beta weight of perceived justice ($\beta = .109. \ P < .05$) was positive, suggesting that perceived justice had a significant positive and unique effect on an athlete’s trust in the coach. Thus, hypothesis 3 was supported. Hypothesis 4 predicted that an athlete’s perception of the coach’s integrity would have a positive and unique effect on the athlete’s trust in the coach. As seen in Table 4.8, the standardized beta weight of perceived integrity ($\beta = .015. \ P > .05$) was not significant. Thus, hypothesis 4 was not supported.
Propensity to Trust as a Moderator

Hypotheses 5.1, 5.2, and 5.3 predicted the moderator effects of propensity to trust on the effects of perceive ability, perceived benevolence, and perceived justice on the athlete’s trust in the coach. The moderator effect of propensity to trust on the effect of perceived integrity on an athlete’s trust in the coach was not tested because the effect of perceived integrity on an athlete’s trust in the coach was not significant. I used regression and followed the procedures, described by Cohen and Cohen (1983) and recommended by Baron and Kenny (1986) to test moderator effects. According to Baron and Kenny (1986), “If the independent variable is denoted as X, the moderator as Z, and the dependent variable as Y, Y is regressed on X, Z, and XZ. Moderator effects are indicated by the significant effect of XZ while X and Z are controlled” (p. 1176).

Hypothesis 5.1 predicted that an athlete’s propensity to trust would moderate the effects of the athlete’s perception of the coach’s ability on the athlete’s trust in the coach. Results of the regression analysis used to test this hypothesis are presented in Table 4.9. As seen in Table 4.9, the control variables--perceived ability and propensity to trust--accounted for 28% of the variance in an athlete's trust in the coach. After controlling for these effects, the interaction between perceived ability and propensity to trust contributed an additional 5% (p < .01), suggesting a significant moderator effect. Further, the beta weight of the interaction (β = .536. P < .01) was positive, suggesting that the propensity to trust moderated the effect of perceived ability on an athlete's trust in coach in a positive way. Thus, hypothesis 5.1 was supported.
<table>
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<th>Step</th>
<th>Variables Entered</th>
<th>R2</th>
<th>R2 Change</th>
<th>F Change</th>
<th>Beta&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Beta&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Perceived Ability</td>
<td>.530***</td>
<td>.072</td>
<td>41.540***</td>
<td>.360***</td>
<td>.536***</td>
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<td>Propensity to Trust</td>
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<td>.282</td>
<td></td>
<td>.007</td>
<td>-.439***</td>
</tr>
<tr>
<td>2</td>
<td>Perceived Ability X</td>
<td>.332</td>
<td>.050</td>
<td>15.883***</td>
<td>.536***</td>
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<td>Propensity to Trust</td>
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</tr>
</tbody>
</table>

<sup>a</sup> Beta from First Step  
<sup>b</sup> Beta from Second Step  
*** indicates P<.001  

Table 4.9: Propensity to trust as a moderator of Perceived ability

Hypothesis 5.2 predicted that an athlete’s propensity to trust would moderate the effects of the athlete’s perception of the coach’s benevolence on the athlete’s trust in the coach. Results of the regression analysis used to test this hypothesis are presented in Table 4.10. As seen in Table 4.10, the control variables--perceived benevolence and propensity to trust--accounted for 35% of the variance in an athlete's trust in the coach. After controlling for these effects, the interaction between perceived benevolence and propensity to trust contributed an additional 1.9% (p < .05), suggesting a significant moderator effect. Further, the beta weight of the interaction (β = .432. P < .05) was positive, suggesting that the propensity to trust moderated the effect of perceived ability on an athlete's trust in coach in a positive way. Thus, hypothesis 5.2 was supported.
Hypothesis 5.3 predicted that an athlete’s propensity to trust would moderate the effects of the athlete’s perception of the coach’s justice on the athlete’s trust in the coach. Results of the regression analysis used to test this hypothesis are presented in Table 4.11. As seen in Table 4.11, the control variables--perceived justice of the coach and propensity to trust--accounted for 31% of the variance in an athlete's trust in the coach. After controlling for these effects, the interaction between perceived ability and propensity to trust contributed an additional 2.5% (p < .01), suggesting a significant moderator effect. Further, the beta weight of the interaction (β = .49. P < .01) was positive, suggesting that the propensity to trust moderated the effect of perceived ability on an athlete's trust in coach in a positive way. Thus, hypothesis 5.3 was supported.

<table>
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<th>R2 Change</th>
<th>F Change</th>
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<th>Beta&lt;sup&gt;b&lt;/sup&gt;</th>
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<td>.433*</td>
</tr>
<tr>
<td></td>
<td>Benevolence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Propensity to Trust</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Perceived</td>
<td>.352</td>
<td>.352</td>
<td>57.622***</td>
<td>.045</td>
<td>-.334***</td>
</tr>
<tr>
<td></td>
<td>Benevolence X</td>
<td>.371</td>
<td>.019</td>
<td>6.475*</td>
<td>.432*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Propensity to Trust</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> Beta from First Step  
<sup>b</sup> Beta from Second Step

*** indicates P<.001; ** P<.01; * P<.05

Table 4.10: Propensity to trust as a moderator of Perceived benevolence.
<table>
<thead>
<tr>
<th>Step</th>
<th>Variables Entered</th>
<th>R2</th>
<th>R2 Change</th>
<th>F Change</th>
<th>Beta\textsuperscript{a}</th>
<th>Beta\textsuperscript{b}</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Perceived Justice</td>
<td>.557</td>
<td></td>
<td></td>
<td>.429***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Propensity to Trust</td>
<td>.312</td>
<td>.312</td>
<td>47.988***</td>
<td>.058</td>
<td>-.394*</td>
</tr>
<tr>
<td>2</td>
<td>Perceived Justice X Propensity to Trust</td>
<td>.336</td>
<td>.025</td>
<td>7.861**</td>
<td>.491**</td>
<td></td>
</tr>
</tbody>
</table>

\textsuperscript{a} Beta from First Step  
\textsuperscript{b} Beta from Second Step  
*** indicates P<.001; ** P<.01; * P<.05

Table 4.11: Propensity to trust as a moderator of Perceived Justice.

Model of Consequences of Trust

The model (see Figure 4.8), 171 distinct sample moments and 49 distinct parameters to be estimated, had degrees of freedom of 141. The assessment of the model went through the same procedures used to assess model of the antecedents of trust. The first step was to look at the model fit indexes (Hoyle, 1995). Chi-square statistic ($\chi^2$(141)=294.66; p<.000) for the model indicated that the model did not fit the data well. However, due to the sample size I used, $\chi^2$/df was used to adjust the sample size effects. The value for $\chi^2$/df was 2.09, below the suggested cutoff value of 3.0. Therefore, after adjusting the sample size effect, $\chi^2$/df indicated that the model had a fair fit.

Of the model fit indexes, NFI (.86) and GFI (.87) were slightly below .90 cutoff values for a fair model fit, which seemed to suggest a bad fit. However, NFI and GFI both do not control sample size effects. Given the small sample size of this study, the results of NFI and GFI should be interpreted with caution. Other indexes—IFI, TLI, and CFI—all had a value higher than .92, .90, .91, .92, respectively. Especially the IFI and the CFI, which taking the sample size into consideration when examining model fit, suggested a fair model fit.
In addition to those model fit indexes, RMSEA was used to assess model fit. RMSEA was .07. As mentioned before, values of RMSEA ranging from .05 to .08 are reasonable errors of approximation in the population, indicating a reasonable fit. The 90% confidence interval of RMSEA that AMOS output provided were .06 to .08, located within the .05 to .08 reasonable ranges. In summary, taking all information into consideration, I concluded that the model of antecedents of trust had a fair fit with the data.

Note: For the reason of clarity, the correlations among errors of indicators are not linked in this model.

Figure 4.8: The consequences of trust model.
After assessing the model as a whole, I advanced to the next step to assess the parameter estimates. The assessment of the parameter estimates of the model focused on three aspects: a) the feasibility of the parameter estimates, (b) the appropriateness of the standard errors, and (c) the statistical significance of the parameter estimates. The parameter estimates for the consequences of trust model were reported in terms of covariances and correlations, variances, regression weights and standardized regression weights, and squared multiple correlations in Table 4.12, 4.13, 4.14, and 4.15 separately.

<table>
<thead>
<tr>
<th>Label</th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>e41 &lt;-- e23</td>
<td>-0.231</td>
<td>0.055</td>
<td>-4.224</td>
<td>0.000</td>
<td>0.380</td>
</tr>
<tr>
<td>e40 &lt;-- e39</td>
<td>0.451</td>
<td>0.079</td>
<td>5.718</td>
<td>0.000</td>
<td>0.438</td>
</tr>
<tr>
<td>e24 &lt;-- e29</td>
<td>0.112</td>
<td>0.029</td>
<td>3.810</td>
<td>0.000</td>
<td>0.347</td>
</tr>
<tr>
<td>e40 &lt;-- e41</td>
<td>0.285</td>
<td>0.060</td>
<td>4.769</td>
<td>0.000</td>
<td>0.381</td>
</tr>
<tr>
<td>e35 &lt;-- e34</td>
<td>0.201</td>
<td>0.052</td>
<td>3.854</td>
<td>0.000</td>
<td>0.365</td>
</tr>
</tbody>
</table>

Table 4.12: Covariances and correlations of the consequences of trust model.
<table>
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<th>Label</th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>var_trust</td>
<td>1.203</td>
<td>0.188</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>E_coop</td>
<td>0.107</td>
<td>0.035</td>
<td></td>
<td>0.002</td>
</tr>
<tr>
<td>E_comm</td>
<td>0.209</td>
<td>0.053</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>E_perf</td>
<td>0.192</td>
<td>0.066</td>
<td></td>
<td>0.004</td>
</tr>
<tr>
<td>E_indi</td>
<td>0.385</td>
<td>0.111</td>
<td></td>
<td>0.001</td>
</tr>
<tr>
<td>E_team</td>
<td>0.668</td>
<td>0.116</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>e30</td>
<td>0.766</td>
<td>0.088</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>e35</td>
<td>0.684</td>
<td>0.084</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>e42</td>
<td>0.786</td>
<td>0.099</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>e24</td>
<td>0.340</td>
<td>0.037</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>e26</td>
<td>0.384</td>
<td>0.040</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>e29</td>
<td>0.308</td>
<td>0.039</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>e40</td>
<td>1.059</td>
<td>0.109</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>e41</td>
<td>0.528</td>
<td>0.072</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>e39</td>
<td>0.999</td>
<td>0.107</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>e31</td>
<td>2.352</td>
<td>0.236</td>
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<td>e28</td>
<td>0.903</td>
<td>0.100</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>e23</td>
<td>0.704</td>
<td>0.086</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>e50</td>
<td>0.642</td>
<td>0.086</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>e54</td>
<td>0.348</td>
<td>0.067</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>e58</td>
<td>0.532</td>
<td>0.066</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>e47</td>
<td>0.406</td>
<td>0.067</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>e51</td>
<td>0.559</td>
<td>0.075</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>e55</td>
<td>0.687</td>
<td>0.101</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>e34</td>
<td>0.442</td>
<td>0.061</td>
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<td>0.000</td>
</tr>
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</table>

Table 4.13: Variances of the consequences of trust model.
<table>
<thead>
<tr>
<th>Label</th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Willingness&lt;--trust</td>
<td>0.429</td>
<td>0.070</td>
<td>6.153</td>
<td>0.000</td>
<td>0.822</td>
</tr>
<tr>
<td>Commitment&lt;--trust</td>
<td>0.777</td>
<td>0.075</td>
<td>10.410</td>
<td>0.000</td>
<td>0.881</td>
</tr>
<tr>
<td>Performance&lt;--Commitment</td>
<td>0.393</td>
<td>0.103</td>
<td>3.812</td>
<td>0.000</td>
<td>0.583</td>
</tr>
<tr>
<td>Performance&lt;--Willingness</td>
<td>0.228</td>
<td>0.167</td>
<td>2.366</td>
<td>0.007</td>
<td>0.200</td>
</tr>
<tr>
<td>Individual&lt;-- Performance</td>
<td>1.166</td>
<td>0.208</td>
<td>5.596</td>
<td>0.000</td>
<td>0.775</td>
</tr>
<tr>
<td>Team&lt;--Performance</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td>0.624</td>
</tr>
<tr>
<td>v30&lt;-- trust</td>
<td>0.820</td>
<td>0.079</td>
<td>10.418</td>
<td>0.000</td>
<td>0.717</td>
</tr>
<tr>
<td>v35&lt;-- trust</td>
<td>0.892</td>
<td>0.080</td>
<td>11.184</td>
<td>0.000</td>
<td>0.764</td>
</tr>
<tr>
<td>v42&lt;-- trust</td>
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<td></td>
<td>0.778</td>
</tr>
<tr>
<td>v24&lt;-- Willingness</td>
<td>0.637</td>
<td>0.119</td>
<td>5.362</td>
<td>0.000</td>
<td>0.531</td>
</tr>
<tr>
<td>v26&lt;-- Willingness</td>
<td>0.598</td>
<td>0.117</td>
<td>5.129</td>
<td>0.000</td>
<td>0.483</td>
</tr>
<tr>
<td>v29&lt;-- Willingness</td>
<td>0.904</td>
<td>0.146</td>
<td>6.193</td>
<td>0.000</td>
<td>0.682</td>
</tr>
<tr>
<td>v40&lt;-- Willingness</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td>0.486</td>
</tr>
<tr>
<td>v39&lt;-- Commitment</td>
<td>0.972</td>
<td>0.095</td>
<td>10.225</td>
<td>0.000</td>
<td>0.800</td>
</tr>
<tr>
<td>v31&lt;-- Commitment</td>
<td>1.005</td>
<td>0.129</td>
<td>7.815</td>
<td>0.000</td>
<td>0.685</td>
</tr>
<tr>
<td>v28&lt;-- Commitment</td>
<td>1.077</td>
<td>0.096</td>
<td>11.161</td>
<td>0.000</td>
<td>0.536</td>
</tr>
<tr>
<td>v23&lt;-- Commitment</td>
<td>0.935</td>
<td>0.098</td>
<td>9.545</td>
<td>0.000</td>
<td>0.739</td>
</tr>
<tr>
<td>v50&lt;-- Individual</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td>0.733</td>
</tr>
<tr>
<td>v54&lt;-- Individual</td>
<td>1.006</td>
<td>0.087</td>
<td>11.621</td>
<td>0.000</td>
<td>0.775</td>
</tr>
<tr>
<td>v58&lt;-- Individual</td>
<td>0.819</td>
<td>0.078</td>
<td>10.525</td>
<td>0.000</td>
<td>0.858</td>
</tr>
<tr>
<td>v47&lt;-- Team</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td>0.740</td>
</tr>
<tr>
<td>v51&lt;-- Team</td>
<td>0.964</td>
<td>0.075</td>
<td>12.904</td>
<td>0.000</td>
<td>0.854</td>
</tr>
<tr>
<td>v55&lt;-- Team</td>
<td>1.169</td>
<td>0.088</td>
<td>13.275</td>
<td>0.000</td>
<td>0.803</td>
</tr>
<tr>
<td>v34&lt;-- Willingness</td>
<td>1.261</td>
<td>0.196</td>
<td>6.422</td>
<td>0.000</td>
<td>0.828</td>
</tr>
<tr>
<td>v41&lt;-- Commitment</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td>0.736</td>
</tr>
</tbody>
</table>

Table 4.14: Regression weights and standardized regression weights for the consequences of trust model.
As Tables 4.12, 4.13, and 4.14 show, there were no correlations greater than 1.00, no negative variances, and no covariance or correlation matrices that were not positive definite. Thus, the parameter estimates were feasible and appropriate. In terms of the statistical significance of the parameter estimates as suggested by the p value, all the parameter estimates were significant (p<0.01). All of the standard errors were within a reasonable range from .029 to .23. Table 4.15 shows that an athlete’s trust in the coach explained 77% of the variance in the athlete’s commitment to the coach and 67% of the variance in the athlete’s willingness to cooperate with the coach. An athlete’s commitment to the coach and willingness to cooperate with the coach explained 54% of the variance in the perceived performance.

The third procedure is to access the hypothesized relationships among variable in the model. Hypothesis 6 predicted that an athlete’s trust in the coach would have a positive and unique effect on the athlete’s willingness to cooperate with the coach. As seen in Table 4.14, the standardized beta weight of trust in the coach (β = .882. P < .01) was positive, suggesting that trust in the coach had a significant positive and unique
effect on an athlete’s willingness to cooperate with the coach. Thus, hypothesis 6 was supported. Hypothesis 7 predicted that an athlete’s willingness to cooperate with the coach would have a positive and unique effect on the athlete’s perceived performance. The results in Table 4.14 show that the standardized beta weight of willingness to cooperate ($\beta = .20$. $P < .01$) was positive, suggesting willingness to cooperate with the coach had a significant positive and unique effect on an athlete’s perceived performance. Thus, hypothesis 7 was supported. Hypothesis 8 predicted that an athlete’s trust in the coach would have a positive and unique effect on the athlete’s commitment to the coach. As seen in Table 4.14, the standardized beta weight of perceived justice ($\beta = .881$. $P < .01$) was positive, suggesting that trust in the coach had a significant positive and unique effect on an athlete’s commitment to the coach. Thus, hypothesis 8 was supported. Hypothesis 9 predicted that an athlete’s commitment to the coach would have a positive and unique effect on the athlete’s perceived performance. As seen in Table 4.14, the standardized beta weight of athlete’s commitment to the coach ($\beta = .015$. $P > .05$) was positive; suggesting an athlete’s commitment to the coach had a significant positive and unique effect on an athlete’s perceived performance.

Table 4.16 shows the direct and indirect effects of the variable on dependent variables. As seen in Table 4.16, an athlete’s trust in the coach had a direct effect of .881 and .822 on commitment to the coach and willingness to cooperate with the coach. Commitment to the coach and willingness to cooperate had a direct effect of .583 and .20 on perceived performance. An athlete’s trust in the coach had an indirect effect of .678 on perceived performance through commitment and willingness.
<table>
<thead>
<tr>
<th></th>
<th>Trust</th>
<th>Commitment</th>
<th>Willingness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commitment</td>
<td>0.881</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Willingness</td>
<td>0.822</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Performance</td>
<td>0.678 (^a)</td>
<td>0.583</td>
<td>0.200</td>
</tr>
</tbody>
</table>

Note: "\(^a\)" was used to indicate indirect effects.

Table 4.16: Standardized Direct and Indirect Effects.
CHAPTER 5

DISCUSSION

This chapter offers an in-depth discussion of the results, limitations of the study and recommendations for future research, and managerial implications. The discussion of the results is divided into two separate parts. In the first part, I focus on the antecedents of an athlete's trust in the coach. The second part deals with the consequences of an athlete's trust in the coach. After the discussion of the results, limitations of the study and recommendations for future research are provided. Finally, the chapter concludes with possible managerial implications that can be developed from this present study.

The primary purpose of this study was to investigate the role that trust plays in athletic teams. Athletic teams are the basic building block of the sport industry. The performance and growth of many of the sport organizations depend on the performance of athletic teams. As Chelladurai (2001) notes, for example, spectator sport is an offshoot of the pursuit of excellence (a participant activity) at various levels. The driving force behind spectator sport is represented by all the athletic teams pursuing excellence in their respective sports at their own levels of competition.
The sport industry has seen a rapid development in recent years. In 1995, the sport industry was ranked the eleventh largest of all U. S. industry groups with a market value at $152 billion (Archives, The Business of Sports), however, by the end of 1999 the sport industry was estimated to be worth $213 billion and the sixth largest of all U. S. industry groups, according to Street & Smith’s SportsBusiness Journal. In addition to the economic impact, sport has had considerable social impact as reflected in other measures such as attendance, media coverage, employment, and the global market (Shank, 1999).

All of this growth in popularity of sports, in a sense, is based on the excellence demonstrated by top teams in various sports, and the associated entertainment value. Therefore, it is not surprising that the athletic teams have attracted the attention of many sport scholars as well as practitioners. One of the important areas of research in athletic teams is on sport leadership (e.g., Chelladurai, 1978; Chelladurai & Carron, 1978; Smith, Smoll, & Curtis, 1979).

Current research on sport leadership has followed three different lines of approaches (see Chelladurai, 1993 for a detailed review). However, none of them have explicitly included trust as a critical variable. In contrast, literature on leadership in general has long recognized the significance of trust in leadership for at least four decades (e.g., Argyris, 1962; Liker, 1967; Mellinger, 1959). Trust is a critical variable in leader-member relations because trust is the foundation of such relationships (Michalos, 1990). Indeed, trust is an essential element underpinning all social exchange relations (Blau, 1968; Barber, 1983). Trust affects the degree of personal security in which interpersonal relationships are allowed to develop (Shapiro, 1989). If a leader’s
behaviors generate trust in his/her members, he/she is more likely to establish a productive interpersonal relationship with the members and exert his/her influence to motivate the members, and thus improve the member’s performance. On the other hand, without trust, people tend to act defensively and reject others’ influences on them (Zand, 1972).

This is why trust in leadership is a major element in several leadership theories: trust is a key concept in leader-member exchange theory (Schriesheim, Castro, & Cogliser, 1999); transformational and charismatic leadership instills trust in their members (Podsakoff, MacKenzie, Moorman, & Fetter, 1990); member’s trust in leaders generate cooperative behaviors (McAllister, 1995); and it is positively related to performance (Dirks, 2000). A brief review of trust in leadership literature suggests that the three lines of research on sport leadership can be more productive if trust in the leader is included in their framework.

In light of previous studies on sport leadership and trust in leadership, a conceptual model of trust in leadership in athletic teams was developed. This model posits that an athlete's trust in his/her coach is influenced by the perceived characteristics of the coach (i.e., perceived ability, perceived benevolence, perceived justice, and perceived integrity). The athlete's propensity to trust moderates his/her trust in the coach. The model also posits that an athlete's trust in the coach influences the athlete's commitment to the coach and his/her willingness to cooperate with the coach, both of which in turn, affect the athlete's performance.
Antecedents of Trust in a Coach

Trust relationship includes at least two parties: trustor (the one who gives trust) and trustee (one who is trusted). The perceived characteristics of a trustee have been widely accepted as important antecedents to trust (i.e., Mayer, James, Davis, & Schoorman, 1995; Ring et. al., 1992). This is because trust is derived from the expectations of how the trustee will behave (Good, 1988). Those expectations are based on the perceived characteristics of a specific trustee. While most researchers agree on that the perceived characteristics of a trustee to be important antecedents to trust, there are disagreements on which characteristics and conditions that influence trust. For example, Butler (1991) identified ten conditions that could produce trust in a supervisor among subordinates (i.e., availability, competence, consistency, discreetness, fairness, integrity, loyalty, openness, promise fulfillment, and receptivity). In contrast, Strickland (1958) and Solomon (1960) suggested that benevolence was the only trustee’s characteristic that is responsible for trust. Johnson-George and Swap (1982), on the other hand, suggested that reliability was the paramount characteristic. Lieberman (1981) noted that perception of a professional’s competence and integrity was the basis for trust to develop in fiduciary relationships. Podsakoff, MacKenzie, Moorman, and Fetter (1990) found that justice was an important antecedent of member’s trust in the leader. More recently, based on an extensive literature review, Mayer et al. (1995) suggested that three characteristics influenced trust: ability, benevolence, and integrity.

Based on the literature review, my model (see figure 4.7) hypothesized that an athlete’s trust in a coach was influenced by the perceived ability, perceived benevolence,
perceived justice, and perceived integrity of the coach (see Chapter 1 for details).

Structural equation modeling technique was employed to test the model. A set of
different fit indices was utilized to assess the antecedents of trust in the coach model.
The model fit the data collected for this present study well ($\chi^2/df=1.9$, RMSEA=.06
(90% C. I.=.07-.05), IFI=.95, CFI=.95). Therefore, it can be concluded that the model
was a feasible explanation of an athlete’s trust in a coach.

In addition to model fit indices, the squared multiple correlation for an athlete’s
trust in the coach was .524. This number suggested that the proposed antecedents of trust-
perceived ability, perceived benevolence, perceived justice, and perceived integrity of
coach all together--explained 52% of the variance in an athlete’s trust in the coach.
While this result supports the general belief that perceived characteristics of a trustee are
important antecedents of trust (e.g., Butler, 1991; Good, 1988; Johnson-George & Swap,
1982; Mayer et al., 1995; Ring et. al., Solomon, 1960; Strickland, 1958), it also indicates
that there must be other factors not included into this model that come into play because
48% of the variance in an athlete’s trust in the coach was not explained by the proposed
model. The other factors not included in this model may be (a) other perceived
characteristics of a coach and/or (b) other factors related to the trustor and/or the situation
in which the trusting relationship takes place. Given the fact that 52% of the variance in
an athlete’s trust in the coach was already explained by the perceived characteristics of a
coach, it is more likely that the other factors may be related to the latter. In the following,
the result of each hypothetical path in the antecedents of trust model between perceived
characteristics of a coach and an athlete’s trust in the coach would be discussed.
Perceived Ability and Trust in a Coach

The view that perceived ability is an important element of perceived characteristics that influence trust is consistent with many of previous studies (e.g., Cook & Roth, 1980; Deutsch, 1960; Mayer et al., 1995; Sitkin & Roth, 1993). Ability is “group of skills, competencies, and characteristics that enable a party to have influence within some specific domain” (Mayer et al., 1995, p. 717). Hypothesis 1 in Chapter 1 predicted that an athlete’s perception of the coach’s ability would have a positive and unique effect on the athlete’s trust in the coach. This hypothesis was supported by the data. As seen in Table 4.8, the standardized regression weight of perceived ability to trust in a coach ($\beta = .17, p< .05$) was positive, and therefore indicated a positive and unique effect on the athlete’s trust in the coach. This finding largely supported the theoretical model provided by Mayer et al. (1995) who predicted that perceived ability was one of the trustee’s characteristics that would influence trust. This finding was also consistent with previous empirical study in a business context. For example, Butler (1991) found that competence (similar to ability) was one of the ten conditions that influence a subordinate’s trust in a supervisor.

Perceived Benevolence and Trust in a Coach

A number of authors have used the word benevolence as an antecedent of trust (e.g., Larzelere & Huston, 1980; Mayer et al., 1995; Solomon, 1960; Strickland, 1958). “Benevolence is the extent to which a trustee is believed to want to do good to the trustor, aside from an egocentric profit motive” (Mayer, et al., 1995; p. 718). Hypothesis 2 predicted that an athlete’s perception of a coach’s benevolence would have a positive and
unique effect on the athlete’s trust in the coach. This hypothesis was supported. As seen in Table 4.8, the standardized regression weight of perceived benevolence to trust in a coach ($\beta = .66, p< .01$) was positive, and therefore indicated a positive and unique effect on the athlete’s trust in the coach. This result also largely supported the theoretical model provided by Mayer et al. (1995) who predicted that perceived benevolence was one of the trustee’s characteristics that would influence trust. This result was consistent with the findings of a number of other authors who used a different name to label benevolence. For example, Ring and Van de Ven (1992) used goodwill and Frost, Stimpson, and Maughan (1978) used altruism to refer to a positive orientation of a trustee toward a trustor, which is similar to benevolence. Both of them found that this construct was an important antecedent of trust.

Perceived Justice and Trust in a Coach

Justice refers to the role of fairness (Greenberg, 1987). Greenberg noted that people usually considered the nature of their treatment by others as a determinant of justice in the leader-member relationships; perception of leader’s justice affected trust in the leader and the system as a whole (Pillai, Schriesheim, & Williams, 1999). Hypothesis 3 predicted that an athlete’s perception of the coach’s justice would have a positive and unique effect on the athlete’s trust in the coach. This hypothesis was supported. As seen in Table 4.8, the standardized regression weight of perceived benevolence to trust in a coach ($\beta = .10, p< .05$) was positive, and therefore indicated a positive and unique effect on the athlete’s trust in the coach. The result was similar to previous studies in business setting. For example, Alexander and Ruderman (1987) found a positive relationship
between perceptions of both procedural justice and distributive justice and trust in upper-level management. Butler (1991) found that fairness is one of the ten conditions that produce trust in leadership. Folger and Konovsky (1989) found perception of fair procedures influence members’ trust in the leader.

*Perceived Integrity and Trust in a Coach*

Hypothesis 4 predicted that an athlete’s perception of the coach’s integrity would have a positive and unique effect on the athlete’s trust in the coach. Surprisingly, this hypothesis was not supported. As seen in Table 4.8, although the standardized regression weight of perceived integrity to trust in a coach ($\beta = .01$, $p > .05$) was positive, the P value indicated that the $\beta$ was not significant. This nonsignificant path suggested that the perceived integrity was not an important antecedent to an athlete’s trust in a coach. This finding was a surprise because a number of theorists have conceptualized integrity or very similar constructs as a major antecedent to trust (e.g., Butler, 1991; Lieberman, 1981; Sitkin & Roth, 1993). Theoretically, perceived integrity influences trust because of value congruence. This is when a trustor perceives that the trustee adheres to a set of beliefs and values that the trustor finds acceptable, the trustor is more likely to trust the trustee.

One explanation for this finding is that integrity may take time to be recognized. Unlike ability, benevolence, and justice, integrity, which involves a set of beliefs and values, is intrinsic. Therefore, it takes more time and interactions to perceive integrity in the leader. As shown in Table 4.1, More than 55% of the participants of this study had less than one year under their coach’s leadership. Besides, as members of sport clubs, the
participants regularly practiced twice a week, each time for around two hours, except in their game season. This is different from people working in a business setting where members and leaders usually work together 8 hours a day, five days a week, and 52 weeks a year. Thus, the reason why the link between perceived integrity and an athlete’s trust in the coach was not significant may be that the participants did not have enough time and interactions to correctly perceive the value congruence between them and their coach.

*Propensity to Trust as a Moderator*

The moderator effects of propensity to trust were tested by hypothesis 5.1 that predicted that an athlete’s propensity to trust would moderate the effects of the athlete’s perception of the coach’s ability on the athlete’s trust in the coach, hypothesis 5.2 predicted that an athlete’s propensity to trust would moderate the effects of the athlete’s perception of the coach’s benevolence on the athlete’s trust in the coach, and hypothesis 5.3 that predicted that an athlete’s propensity to trust would moderate the effects of the athlete’s perception of the coach’s justice on the athlete’s trust in the coach. The moderator effect of propensity to trust on the effect of perceived integrity on an athlete’s trust in the coach were not tested because the effect of perceived integrity on an athlete’s trust in the coach was not significant.

The moderator effects of propensity to trust on the effects of perceived characteristics of a coach (i.e., perceived ability, perceived benevolence, and perceived justice) on an athlete’s trust in the coach were supported (see Table 4.6, 4.7, and 4.8). Although the effects sizes of the interactions were rather small, these were significant.
The results empirically supported the long and widely held belief that trust is a result of the interaction of both trustee’s characteristics and trustor’s characteristics. For example, Driscoll (1978) and C.L. Scott (1980) conceptualized trust as be consisted of both a global component, which relates to a trustor’s general willingness to trust others, and a specific component, which pertains to the perceived certain characteristics of a trustee. Similarly, Zaheer, McEvily, and Perrone (1998) distinguished between relational and dispositional trust and pointed out that dispositional trust is an individual trait reflecting the level of personal tendency to trusting other people in general.

Following Mayer et al. (1995), the concept of propensity to trust I used in this study is similar to Rotter’s (1980) general trust, which is a trustee’s “default” expectation of in what degree other people can be trusted. Rotter (1980) suggested that individuals possess a certain level of general trust, which is formed by experiences in childhood and adulthood, personality, and cultural background (Deutsch, 1958; Rotter, 1967; Zand 1997). Mayer et al (1995) suggested that propensity to trust is a personal trait that is stable across different situations and can influence the development of trust and subsequent trust evaluations independent of the characteristics of the trustee.

This study revealed that that propensity to trust moderated an athlete’s perceived characteristics of a coach on the athlete’s trust in the coach. If propensity is high, then an athlete will be more likely to perceive his/her coach as behaving in a trustworthy manner. Likewise, if propensity to trust is low, the athlete will be more likely to perceive his/her coach as behaving in an untrustworthy manner.
In summary, the antecedents of the trust model proposed explained 52% of the variance in an athlete’s trust in a coach. All antecedents except perceived integrity had a significant effect on an athlete’s trust in his/her coach. Among them, perceived benevolence ($\beta = .66$, $p< .01$) had the most influence. However, in contrast to the view that benevolence is the only antecedent of trust (Solomon, 1960; Strickland, 1958), the results of current study supported the more recent view that trust is influenced by multiple perceived characteristics of a trustee. Perceived ability ($\beta = .17$, $p< .05$) and perceived justice ($\beta = .10$, $p< .05$) also had a significant influence on an athlete’s trust in the coach.

Consequences of Trust in a Coach

Clearly, one reason that researchers and practitioners are interested in trust is their belief that it has a significant impact on a variety of outcomes relevant to organizations. In the context of sport, what effects does an athlete’s trust in a coach have on athletic performance? To my knowledge, there is only one study carried out by Dirks (2000) to address this question. Dirks was interested in the relationship between trust in leadership and team performance. His study found that athletes’ trust in leadership had a significant effect on team performance.

However, Dirks did not explain whether the influence of trust in leadership on performance is direct or indirect through other outcome variables. The commonly held theory is that trust in leadership facilitates members’ willingness to accept the leader’s activities, goals, and decisions and to work cooperatively with the leader to achieve them. It holds true in athletic teams where the coach’s role typically involves a number of
activities related to performance, such as determining team member roles, distributing rewards and motivating athletes, training team members, and setting the members’ and team’s goals and strategies. When athletes feel that they cannot rely on the coach, they are unlikely to carry out the roles specified by the leader, or to work toward the performance-related objectives and strategies set by the coach, or to sacrifice their interests for the team or its goals in a context of uncertainty. Using the logic described above, trust in leadership should be associated with higher levels of commitment to the leader and willingness to cooperate with the leader and commitment to the leader and willingness to cooperate, in turn, would influence performance.

Based on the argument above, I proposed the consequences of the trust model (see figure 4.8) and hypothesized that an athlete’s trust in a coach has a direct influence on the athlete’s commitment to the coach and willingness to cooperate with the coach, which, in turn, influence performance. Structural equation modeling technique was employed to test the model. A set of different fit indices was utilized to assess the consequences of trust in the coach model. The model fit the data collected for this present study well ($\chi^2/df = 2.09$, RMSEA = .07 (90% C. I. = .08-.06), IFI = .92, CFI = .92). Therefore, it can be concluded that the model was feasible.

In addition to model fit indices, the squared multiple correlations for commitment to the coach, willingness to cooperate with the coach, and perceived performance were .776, .675, and .549, respectively. The squared multiple correlations suggested that an athlete’s trust in the coach explained 77% of the variance in the athlete’s commitment to the coach and 67% of the variance in the athlete’s willingness to cooperate with the
coach. An athlete’s commitment to the coach and willingness to cooperate with the coach explained 54% of the variance in the perceived performance. An athlete’s trust in the coach had an indirect effect of .678 on performance through commitment to the coach and willingness to cooperate with the coach. In the following, the result of each hypothetical path in the consequences of trust model between perceived characteristics of a coach and an athlete’s trust in the coach would be discussed.

**Trust, Willingness to Cooperate, and Perceived Performance**

Hypothesis 6 predicted that an athlete’s trust in the coach would have a positive and unique effect on the athlete’s willingness to cooperate with the coach. This hypothesis was supported. As seen in Table 4.11, the standardized regression weight of trust in a coach to willingness to cooperate ($\beta = .82, p< .01$) was positive, and therefore indicated a positive and unique effect of the athlete’s trust in the coach on the athlete’s willingness to cooperate. The direct effect of an athlete’s trust in the coach on willingness to cooperate was .82, significant at .01 level. This finding largely supported Roberts and O'Reilly’s (1974) suggestion that high level of trust in an organizational setting might improve cooperation. This is because under high level of trust, individuals are more likely to freely exchange knowledge and information, seek help from each other, sacrifice personal needs and ego, and get highly involved in the work. All of these, in turn, will affect cooperation.

Hypothesis 7 predicted that an athlete’s willingness to cooperate with the coach would have a positive and unique effect on the athlete’s perceived performance. This hypothesis was supported. As seen in Table 4.11, the standardized regression weight of
willingness to cooperate to performance ($\beta = .20, p< .01$) was positive, and therefore indicated a positive and unique effect of the willingness to cooperate on the athlete’s perceived performance. The direct effect of willingness to trust on performance was 0.20, significant at .01 level. This finding was consistent with Seers, Petty, and Cashman (1995) who found that cooperation was positively related to efficiency. This finding was also similar to Campion, Papper, and Medsker (1996) who found that cooperation was related to manager judgments of team performance. The finding also indicated that there was an indirect effect of an athlete’s trust on performance through willingness to cooperate. An athlete’s trust in the coach had an indirect effect of .16 on perceived performance.

**Trust, Commitment, and Perceived Performance**

Hypothesis 8 predicted that an athlete’s trust in the coach would have a positive and unique effect on the athlete’s commitment to the coach. This hypothesis was supported. As seen in Table 4.11, the standardized regression weight of an athlete’s trust in the coach to commitment to the coach ($\beta = .88, p< .01$) was positive, and therefore indicated a positive and unique effect of the athlete’s trust in the coach to commitment to the coach. The direct effect of the athlete’s trust in the coach to commitment to the coach was .88, significant at .01 level. This finding was consistent with previous studies, which found that trust was linked to the sense of identity with the authority (Tyler & Degoe, 1996) and internalization of the goal and vision of supervisor (Zand, 1972).

Hypothesis 9 predicted that an athlete’s commitment to the coach would have a positive and unique effect on the athlete’s perceived performance. This hypothesis was
supported. As seen in Table 4.11, the standardized regression weight of commitment to the coach to perceived performance ($\beta = .58$, $p< .01$) was positive, and therefore indicated a positive and unique effect of the commitment to the coach on the athlete’s perceived performance. The direct effect of commitment to the coach on perceived performance was .58, significant at .01 level. This finding was consistent with previous studies, which found that commitment was an important predictor of job performance (e.g. Becker et al., 1996; Liou, 1995). The finding also indicated that there was an indirect effect of an athlete’s trust on perceived performance through commitment to the coach. An athlete’s trust in the coach had an indirect effect of .51 on perceived performance.

In summary, the consequences of the trust model proposed had a good fit, and therefore provided a feasible explanation of how an athlete’s trust in the coach influenced performance. All the proposed paths (i.e., trust in the coach $\rightarrow$ willingness to cooperate $\rightarrow$ performance and trust in the coach $\rightarrow$ commitment to the coach $\rightarrow$ performance) were significant with the proposed directions. 77% of the variance in the athlete’s commitment to the coach and 67% of the variance in the athlete’s willingness to cooperate with the coach were explained by the athlete’s trust in the coach. The athlete’s commitment to the coach and willingness to cooperate with the coach explained 54% of the variance in perceived performance. An athlete’s trust in the coach had an indirect effect of .678 on perceived performance through commitment to the coach and willingness to cooperate with the coach.
Limitations and Directions for Future Research

As noted in Chapter 1, there are several limitations to this research. In order to aid the reader in interpreting these results, these limitations are discussed in greater length here. Perhaps the biggest limitation of the study is the nature of the research. The current research aimed at exploring the variables that influence athletes’ trust in coach and the outcomes of this trust. It belongs to descriptive research because it does not meet any of the three conditions for experimental research. Given its focuses on model building and testing as well as investigating relationships among variables in the model, the current research falls into correlational research subcategory of descriptive research.

Since this study is not a true experimental study, no causal relation can be established. Structural equation modeling (SEM) may suggest possible causal relations. However, SEM cannot test causality with nonexperimental data. “The literature on equivalent models provides the most compelling demonstration of the inability of SEM to establish directionality” (Hoyle, 1995, p. 175). This is because in many models, change the direction of the relation between two variables does not change either the overall fit of the model or the parameter estimate of the relation between the variables (Hoyle, 1995).

In light of this limitation, future researchers are encouraged to use experimental data to test the paths in the model separately or the proposed model as a whole. By randomly assigning the treatment to groups and manipulating independent variables, researchers will be able to test the causal relations suggested in the proposed model.

A second limitation came from the lack of randomness of sampling. The data were collected from a convenient sample in that accessible and available students
registered in sport clubs were chosen for data collection. Therefore, the data did not reflect the whole population of the students in sport clubs of the university from which the respondents were chosen. The fact that the data were collected only from college students in sport clubs with convenient sampling procedures limited the generalizability of the results.

In light of this limitation, several future studies are recommended. First, future research needs to test the proposed model with data collected by random sampling. By doing so, the results can be generalized to the population of the study. Second, after the generalizability of the model is established to one population, invariant pattern of causal structure methods should be utilized to test the invariance of the model across similar populations. Finally, researchers can test for the invariant factorial structure with data collected from populations with different characteristics. This will help generate new models, which would fit a different population better.

Third, data were collected via questionnaire. Therefore, it is possible that the participants responded with social desirable errors. That is, participants may have provided answer they anticipated I wanted to receive, instead of their true thoughts. To the extent that this may have occurred, the results presented here should be taken with caution.

Finally, as seen in Table 4.1, 85% of the participants were Caucasian/White. African-American, Asian-American, and Hispanic accounted for only 1%, 5%, and 4% of the total participants respectively. Therefore, it is possible that results would be different if stratified random sampling had been used.
Notwithstanding these possible limitations, there are several avenues for future research, in addition to those presented above. One avenue for such research entails testing the proposed model in different settings. Current study tested the model on college students in sport clubs and found the model fit well with the data. However, is this model applicable to intercollegiate athletics and professional sports where competition and pressure for both athletes and coaches are much higher? While Dirks’ (2000) study found that trust in leadership influenced NCAA basketball teams’ performance, there has been no other study, to my knowledge, that investigate the consequences as well as antecedents of trust in leadership in intercollegiate athletics and professional sports. From a theoretical perspective, the proposed model should be applicable to both contexts. However, there are many other factors, such as pressure, media publicity, and skill levels that may influence an athlete’s trust in the coach and consequently the outcomes. The results of future research in this line will offer us better understanding of the role of trust in elite sports.

Another potentially fruitful area for future research is longitudinal research on trust. Many researchers have suggested that the evolution of trust needs time. For example, Rousseau et al. (1998) used the term relational trust to refer the trust produced by repeated interactions. They observed that relational trust takes time to evolve. Similarly, Lewicki and Bunker (1995) suggested that trust relation is an ongoing relation. Since trust develops though time, longitudinal studies will be able to capture the development of trust more accurately.
Finally, in the proposed antecedents of trust model, 52% of the variance in an athlete’s trust in the coach was explained by the proposed antecedents. However, there was still 48% of the variance remained unexplained. Therefore, future researchers should examine other factors that may influence an athlete’s trust in the coach. One line of research on trust focuses on the influence of social controls, such as regulations, law, and contract, on trust development (e.g., Shapiro, 1989, Zucker, 1986). Those were not included into the proposed model because the analysis of how social controls influence trust were not at personal level, rather at a macro level. With the rapid development of research technique, future researchers may be able to include those macro factors into the proposed antecedents of trust model and examine the changes in explained variance.

Practical Implications

The results of this study have several implications for practitioners in sport organizations, especially for coaches. As mentioned in Chapter 1, all athletic teams pursue excellence in their respective sports at their own levels of competition. Thus, the primary concern for coaches of athletic teams is performance. The finding of this study may help coaches to improve their athletes’ performance.

First of all, the proposed consequences of trust model explained how an athlete’s trust in the coach affect performance indirectly though commitment to the coach and willingness to cooperate. 54% of the variance in performance was explained by commitment to the coach and willingness to cooperate with the coach. These two variables seemed to be major factors in determining an athlete's perceived performance. An athlete's trust in the coach explained 77% and 67% of the variance in commitment to
the coach and willingness to cooperate, respectively. Important for coaches is to get to know that trust in the coach has an indirect effect on perceived performance. The implication of this model is that coaches can improve their team performance by increasing their athlete’s trust in them. As the athletes’ trust in their coach increases, they are more likely to commit to and cooperate with the coaches. Both of the factors, as mentioned above, are major factors in determining perceived.

Second, the current study found three significant antecedents of an athlete’s trust in the coach: perceive ability, perceive benevolence, and perceived justice. The implication of this is that coaches can increase athletes’ trust in them by helping athletes to perceive their ability, benevolence, and justice. It is obvious that athletes’ perceptions of coach’s characteristics are influenced by how coaches manage their image and convey their information. With some emphasis on demonstrating their ability, benevolence, and justice to their athletes, coaches can improve their athletes’ trust in them, and consequently, improve performance.

Finally, the current study found that propensity to trust moderated the effects of the perceived ability, perceived benevolence, and perceived justice on an athlete’s trust in the coach. The implication of this finding for coaches is that even when coaches treat all the athletes the same, the athletes may have different levels of trust in the coach because their propensity to trust varies. In order to increase the trust level of the whole team, coaches should pay special attention to those with a low level of propensity to trust.


Browne, M. W. & Mels, G. (1994). *RAMONA user’s guide*. Columbus Ohio: The Ohio State University, Department of Psychology.


APPENDIX A

FINAL QUESTIONNAIRE
**PART I:** The following set of statements relate to several aspects of your coach. If your team has more than one coach, please focus on the coach who deals with you most. Please indicate the extent to which you agree with each statement by circling the appropriate number on the right hand side of each statement (1=Strongly Disagree; 7=Strongly Agree).

<table>
<thead>
<tr>
<th>Level of Agreement</th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. My coach is willing to go out of the way to help me.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>2. My coach rewards athletes based on their contributions.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>3. My coach has much knowledge about the work that needs done.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>4. I feel very confident about my coach’s skills.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>5. My needs and desires are very important to my coach.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>6. My coach is known to be successful at the things he/she tries to do.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>7. My coach would not knowingly do anything to hurt me.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>8. I never have to wonder whether my coach will stick to his/her words.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>9. My coach really looks out for what is important to me.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>10. My coach always tells me the truth.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>11. My coach has a strong sense of justice.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>12. My coach tries to be fair in dealings with athletes</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>13. Sound principles seem to guide my coach’s behavior.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>
The following statements relate to you and your feelings. Please indicate the extent to which you agree with each statement by circling the appropriate number on the right hand side of each statement (1=Strongly Disagree; 7=Strongly Agree).

<table>
<thead>
<tr>
<th>Level of Agreement</th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>14. My coach is very capable of performing the coaching job</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>15. My coach deals honestly with me.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>16. My coach is able to suppress personal biases.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>17. My coach has special abilities that can increase our performance.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>18. My coach appreciates the work done by every athlete.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>19. I like my coach’s values.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>20. My coach is concerned about my welfare.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>21. Most experts tell the truth about the limits of their knowledge.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>22. I am willing to share information with my coach.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>23. My attachment to my coach is primarily based on the similarity of my values and those of my coach.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>24. I am willing to follow coach’s instructions.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>25. These days, you must be alert or someone is likely to take advantage of you.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>26. I am willing to respond to coach’s feedback about my performance.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>
27. My coach would not try to gain an advantage by deceiving athletes.  
28. Since joining this team, my personal values and those of my coach have become more similar.  
29. I am willing to cooperate with my coach to get the work done.  
30. I would be comfortable giving coach a task or problem that was critical to me.  
31. When I talk about my coach, I usually say ‘we’ rather than ‘they’.  
32. When someone praises my coach, it feels like a personal compliment.  
33. Most people can be counted on to do what they say they will do.  
34. I am willing to communicate with my coach.  
35. I can freely share my ideas, feelings, and hopes with my coach.  
36. One should be very cautious with strangers.  
37. If I had a choice, I wouldn’t let the coach have any influence over issues that are important to me.  
38. Most people answer public opinion polls honestly.  
39. I prefer what my coach stands for.  
40. Cooperation with coach is the key to my success.  
41. I feel a sense of belonging with my coach.  
42. I can talk freely to the coach about difficulties I am having on the team.  
43. I feel my coach’s successes are like my successes.
**PART II:** The following statements refer to aspects of your participation in the athletic team. Please indicate the extent to which you are satisfied with each statement by circling the appropriate number on the right hand side of each statement (1=Extremely Dissatisfied; 7=Extremely Satisfied).

<table>
<thead>
<tr>
<th>LEVEL OF AGREEMENT (Circle your response)</th>
<th>Extremely Dissatisfied</th>
<th>Extremely Satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>44. Coach’s plans for competitions.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>45. The friendliness of the coach towards me.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>46. The extent to which my preferred strengths are exploited by the coach.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>47. The team’s overall performance this season.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>48. The coach’s directions during competitions.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>49. The level of appreciation my coach shows when I do well.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>50. The improvement in my performance over the previous season.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
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<tr>
<td>51. The extent to which the team has met its goals for the season thus far.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>52. The extent to which the coach is behind me.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>53. The training I have received from the coach this season.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>54. The improvement in my skill level thus far.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>55. My team’s victories this season.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>56. My coach’s loyalty towards me.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>57. The coach’s teaching of the tactics and techniques of my sport.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>58. The degree of which I have reached my performance goals during the season.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>59. The level to which my talents are employed.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>60. The instruction I have received from the coach this season.</td>
<td>1 2 3 4 5 6 7</td>
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<td></td>
</tr>
<tr>
<td>61.</td>
<td>Coach’s advice on how to adjust during competitions.</td>
<td></td>
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<tr>
<td></td>
<td><strong>LEVEL OF AGREEMENT</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Circle your response)</td>
<td></td>
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<tr>
<td></td>
<td>1  2  3  4  5  6  7</td>
<td></td>
</tr>
<tr>
<td>62.</td>
<td>The extent to which my role matches my potential.</td>
<td></td>
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<td></td>
<td>1  2  3  4  5  6  7</td>
<td></td>
</tr>
<tr>
<td>63.</td>
<td>The manner in which coach uses the available talent.</td>
<td></td>
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<tr>
<td></td>
<td>1  2  3  4  5  6  7</td>
<td></td>
</tr>
<tr>
<td>64.</td>
<td>The recognition I receive from my coach.</td>
<td></td>
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<td></td>
<td>1  2  3  4  5  6  7</td>
<td></td>
</tr>
<tr>
<td>65.</td>
<td>The amount of competitive experience I get.</td>
<td></td>
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<td></td>
<td>1  2  3  4  5  6  7</td>
<td></td>
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<tr>
<td>66.</td>
<td>The tactics recommended by the coach during competitions.</td>
<td></td>
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<td></td>
<td>1  2  3  4  5  6  7</td>
<td></td>
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<tr>
<td>67.</td>
<td>The degree to which my abilities are used.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1  2  3  4  5  6  7</td>
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</tbody>
</table>
PART III: Please respond to the following questions by printing in the space provided or by circling the appropriate response.

68. Numbers of years at the current university: __________ year(s)

69. Total numbers of years as the team member: __________ year(s)

70. Number of years playing for your current coach: __________ year(s)

71. Gender (please circle one): A. Female       B. Male

72. Ethnicity/Race (please circle one):
   A. African-American/Black       D. Hispanic
   B. Asian-American             E. Native American
   C. Caucasian/White           F. Other: _____________

73. In what sport(s) club are you an athlete? ___________________________________

74. Ethnicity/Race of your current coach (please circle one):
   A. African-American/Black       D. Hispanic
   B. Asian-American             E. Native American
   C. Caucasian/White           F. Other: _____________

75. Gender of your current coach (please circle one): A. Female       B. Male

76. Which kinds of high school did you go to? (Please circle one)
   A. Rural          B. Suburban      C. Inner-city

Thank you very much for your participation!
APPENDIX B

QUESTIONNAIRE FOR EXPERT PANEL STUDY
Dear Colleague

We are conducting a study to investigate the role of athlete’s trust in the coach. For this study, athlete’s trust in the coach will be defined as an athlete’s psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of the coach. Based on previous studies in business literature (e.g., Butler, 1991; Mayer et al., 1995), a conceptual framework is proposed in which trust in the coach is viewed as the function of the coach’s characteristics and the athlete’s characteristics, and the trust is proposed to have a indirectly positive effect on the athlete’s performance through its direct effects on outcome variables including the athlete’s commitment to the coach, willingness to cooperate, and satisfaction with the coach.

The purposes of this study are (a) to test the proposed model, (b) to test the proposed relationship among variables, and (c) to validate the measures used in this study. The questionnaires to measure the relevant variables were designed based on related sport management literature, literature on organizational theory and sociology of organizations (Becker, 1996; Dirks, 2000; Butler, 1991; Mayer et al., 1995; Riemer & Chelladurai, 1998; Zand, 1972). Items were worded to fit the context of sport. The questionnaires include three sections: (a) antecedents of trust (ability, benevolence, integrity, fairness, propensity to trust) and trust in the coach; (b) outcome variables (commitment to the coach, willingness to cooperate, satisfaction with the coach, and performance; and (c) general demographic information of respondent.

In order to assess the content validity of the items to be measured I request your help in this process. Enclosed you will find a definition of a construct and a list of items that represent the meaning of the construct. I request you to verify if:

a) the items fit with the definition of the construct,
b) any of the items could fit the definition of more than one construct,
c) any of the items are repetitive with another item, and
d) any of items are not stated clearly.

Your participation as a member of the Panel of Experts is on a voluntary basis. In addition, you may be assured of complete confidentiality. Individual responses will not be identified or reported. You may contact any of the research investigators at any time. It is estimated that the research project will be completed within one year. If you wish to have a copy of the results, please contact Zhu Zhang. Thank you for your time and assistance.

Sincerely,

Zhu Zhang
Ph.D. Candidate
Zhang.393@osu.edu

P. Chelladurai, Ph.D.
Professor
chelladurai.1@osu.edu
**PART I:** The following set of statements relate to several aspects of your coach. Please indicate the extent to which you agree with each statement by circling the appropriate number on the right hand side of each statement (1=Strongly Disagree; 7=Strongly Agree).

**Perceived ability** (refers to the perceived skills, competencies, and characteristics of the coach that enable the coach to performance his/her work).

1. My coach is very capable of performing the coaching job.
2. My coach is known to be successful at the things he/she tries to do.
3. My coach has much knowledge about the work that needs done.
4. I feel very confident about my coach’s skills.
5. My coach has specialized capabilities that can increase our performance.

*Your response:*

Any item (s) that does not belong at all with the definition for this construct? ____________

Any item (s) are repetitive with another item ____________

Any item (s) are not stated clearly ____________

**Perceived benevolence** (refers to the extent to which the coach is believed to want to do good to the athlete, aside from an egocentric profit motive).

1. My coach is concerned about my welfare.
2. My needs and desires are very important to my coach.
3. My coach would not knowingly do anything to hurt me.
4. My coach really looks out for what is important to me.
5. My coach is willing to go out of the way to help me.

*Your response:*

Any item (s) that does not belong at all with the definition for this construct? ____________

Any item (s) are repetitive with another item ____________

Any item (s) are not stated clearly ____________

**Perceived integrity** (refers to the extent to which the coach is believed to adhere to a set of principles that the athlete finds acceptable).

1) I never have to wonder whether my coach will stick to his/her words.
2) I like my coach’s values.
3) Sound principles seem to guide my coach’s behavior.
4) My coach always tells me the truth.
5) My coach deals honestly with me.

*Your response:*

Any item (s) that does not belong at all with the definition for this construct? ____________
Perceive Justice (refers to the perceived fairness of the coach).

1) My coach is able to suppress personal biases.
2) My coach rewards fairly on the work done by every athlete.
3) My coach rewards athletes based on their contributions.
4) My coach has a strong sense of justice.
5) My coach tries to be fair in dealings with athletes

Your response:

Trust in the coach (refers to an athlete’s psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of the coach).

1) My coach would not try to gain an advantage by deceiving athletes.
2) If I had my way, I wouldn’t let the coach have any influence over issues that are important to me (reverse coded).
3) I would be comfortable giving coach a task or problem that was critical to me, even if I could not monitor their actions.
4) I can talk freely to the coach about difficulties I am having on the team.
5) I can freely share my ideas, feelings, and hopes with him.
Your response:

Any item (s) that does not belong at all with the definition for this construct? ____________

Any item (s) are repetitive with another item ____________

Any item (s) are not stated clearly ____________

Commitment to the coach (refers to the strength of an athlete's internalization of and identification with the coach).

1) When someone criticizes my coach, it feels like a personal insult.
2) When I talk about my coach, I usually say 'we' rather than 'they.'
3) I feel my coach’s successes are like my successes.
4) When someone praises my coach, it feels like a personal compliment.
5) I feel a sense of belonging with my coach.
6) The reason I prefer my coach to others is because of what the coach stands for.
7) My attachment to my coach is primarily based on the similarity of my values and those of my coach.
8) Since joining this team, my personal values and those of my coach have become more similar.

Your response:

Any item (s) that does not belong at all with the definition for this construct? ____________

Any item (s) are repetitive with another item ____________

Any item (s) are not stated clearly ____________

Willingness to cooperate (refers to the extent to which an athlete feels like to communicate with the coach, to accept the coach’s decision, and to make changes based on the coach’s feedback of his/her performance).

1) I am willing to share information with my coach.
2) I am willing to cooperate with other athletes to get the work done.
3) Cooperation with coach is the key to my team’s success.
4) I am willing to follow coach’s instructions.
5) I am willing to respond to coach’s feedback about my performance.

Your response:

Any item (s) that does not belong at all with the definition for this construct? ____________

Any item (s) are repetitive with another item ____________

Any item (s) are not stated clearly ____________
Any other suggestions?

THANK YOU VERY MUCH FOR YOUR INPUT!!