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Original article

Antecedents and consequences of athlete's trust in the coach

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Abstract

Purpose: To assess the effects of trust in the coach on commitment to coach, willingness to cooperate, and perceived performance.
Methods: Two hundred and fifteen members of competitive sports clubs responded to scales measuring coach characteristics of justice, benevolence, integrity, and competence; athlete's trust in the coach; commitment to coach; willingness to cooperate; and perceived performance.
Results: Confirmatory factor analysis of data supported the measurement model. Perceptions of a coach's justice ($\beta = 0.19$, $p < 0.05$), benevolence ($\beta = 0.32$, $p < 0.05$), integrity ($\beta = 0.14$, $p < 0.05$), and competence ($\beta = 0.29$, $p < 0.05$) each had a significant effect on athletes' trust, and they cumulatively accounted for 61% of the variance in trust. The structural equation modeling showed that trust had direct effects on commitment to coach ($\beta = 0.77$, $p < 0.01$), willingness to cooperate ($\beta = 0.79$, $p < 0.01$), and perceived performance ($\beta = 0.51$, $p < 0.01$). The hypothesized mediating effects of commitment to coach and willingness to cooperate were not supported. The model explained 26% of the variance in perceived performance.
Conclusion: As trust in coach influences commitment to coach, willingness to cooperate, and perceived performance, coaches need to take effort to bolster their athletes' trust by being just and benevolent, and enhancing their integrity and competence.

Keywords: Benevolence; Commitment; Competence; Cooperation; Integrity; Justice; Trust in the coach

1. Introduction

Recent literature has offered several models emphasizing the significance of coach–athlete relationship.[1,2] The present research is focused on one element that fosters the interpersonal relationship between the coach and athlete—trust, defined as "the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party".[3]

The notion of vulnerability in the above definition refers to the risk that is possible if the trustee does not live up to expectations. For example, when athletes practice a dangerous technique, they become vulnerable because there is a risk involved. This condition creates a requirement on the part of the athletes to have positive expectations of the intentions or behavior of the coach; and trust is demonstrated when the athletes are willing to accept the vulnerability to follow the coach's instruction in this risky situation.

Dirks[4] found that trust in the coach had a significant effect on the performance of National Collegiate Athletic Association (NCAA) basketball teams. While Dirks' research[4] represents a beginning, there is a need to delve into the antecedents and consequences of trust in a coach including intervening variables that result ultimately in performance. With this in mind, we present and test a framework which includes the antecedents and consequences of trust.

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2. Empirical model of trust in coach

The proposed model of trust in leadership in sport teams is shown in Fig. 1. Briefly, athletes' trust in the coach is shown to be influenced by the perceived coach characteristics of (a) justice, (b) benevolence, (c) integrity, and (d) competence. Trust in the coach directly influences perceived performance. Such trust also influences commitment to leader and willingness to cooperate which, in turn, influence performance. In the following sections, we describe the variables and their relationships.

2.1. Perceived characteristics of the coach

Perceived characteristics of a trustee are important antecedents to trust,[3,5] particularly relevant in a context of repeated interactions as in the case of coaches and athletes. Four of the most often cited characteristics of the trustee are justice, benevolence, integrity, and competence.[3,5–7]

2.1.1. Justice

Organizational justice consists of (a) distributive justice, which refers to "the typical metric for judging the fairness of transactional contracts and economic exchanges",[7] (b) procedural justice, which refers to the fairness of the procedures used to determine those outcomes,[8] and (c) interactional justice "addresses the manner in which the decisions are communicated".[9] In leader–member relations, perception of leader's justice has been shown to positively affect trust in the leader and the system as a whole.[3,6,7,10]

In the coaching context, distributive justice relates to the rewards that the athletes seek such as opportunities to train and excel in the chosen activity, playing time, desired roles and statuses, and so on. It would also include the personal attention and support the coach provides to each of the athletes. Procedural justice would involve the coach's consistent application of valid criteria in the distribution of rewards to the members of the team. Finally, interactional justice would refer to coach's warm and friendly interactions with athletes individually and collectively explaining how the rewards have been distributed among the athletes, and the procedures thereof. Based on these considerations, we proposed:

Hypothesis 1: An athlete's perception of a coach's justice has a positive effect on the athlete's trust in the coach.

2.1.2. Benevolence

Benevolence is the extent to which a trustee (i.e., the coach in our context) does good to the trustor;[3] is loyal to the interests and well-being of the trustor;[5] and care for trustor's needs.[11] That is, for the athlete to place trust in the coach, the athlete must believe that the coach's actions are based on benevolence toward the athlete rather than coach's personal gain through athlete's achievements.

It must be noted that justice (i.e., fairness) is a rational process while benevolence is an emotional process. That is, justice is about what is due to whom relative to others in the milieu whereas benevolence is based on one's care and concern for another, and is a reaction to that another's needs.[11] In our context, a coach's decision regarding selection of players, starters, playing time allotted to players would all be subject to justice considerations. However, when a coach helps solve an athlete's personal problems, it would be subject to the question of whether it was born out of benevolence or personal gains. Based on the above description, we hypothesized:

Hypothesis 2: An athlete's perception of a coach's benevolence has a positive effect on the athlete's trust in the coach.

2.1.3. Integrity

Integrity refers to "the trustor's perception that the trustee adheres to a set of principles that the trustor finds acceptable".[3] Integrity "entails the ability (of the coach) to both determine, as well as engage in morally correct behavior regardless of external pressures".[12] The athletic context is replete with instances where the coaches have themselves cheated or encouraged their athletes to cheat and/or violate the rules. If an athlete perceives that type of behavior in his or her coach, the integrity of the coach would become suspect and, therefore, the trust in the coach would be negatively affected. Following the above line of reasoning, we hypothesized:

Hypothesis 3: An athlete's perception of a coach's integrity has a positive effect on the athlete's trust in the coach.

2.1.4. Competence

Competence refers to one possessing requisite ability to carry out successfully the duties within some specific domain. Leader's competence (or ability) has been shown to influence member's trust in the leader.[5] Competence in coaching would be reflected in activities such as the development and implementation of game plans, establishing goals and strategies for athletes and the team, and motivating and developing team members which, in turn, would promote athletes' trust in the coach. Accordingly, we hypothesized:

Hypothesis 4: An athlete's perception of a coach's competence has a positive effect on the athlete's trust in the coach.

2.2. Consequences of trust

2.2.1. Commitment to coach

Becker et al.[13] suggested that identification with, and internalization of the goal and value of a supervisor are the bases of commitment to the supervisor. Further, members who trust their leaders are likely to identify with, and internalize the goals of the leader.[10] Such identification and internalization, in turn, lead to and reinforce commitment to the leader.[13] In addition, monitoring and improving member's performance is an explicit function of a leader, and thus a leader will likely promote performance norms.[13] Thus, higher level of commitment to the coach means a higher acceptance of the performance norms and, consequently, better performance. Hence, the following hypotheses were proposed:

Hypothesis 5: Athletes' trust in coach has a positive effect on the athletes' commitment to the coach.

Hypothesis 6: Athletes' commitment to coach has a positive effect on performance.

2.2.2. Willingness to cooperate

Research shows that trust leads to cooperative behavior among individuals, groups, and organizations.[3] In our context, the extent to which athletes accept the coach's decisions and directions leads to cooperation with the coach and other members in executing the directions of the coach. That is, if members trust their coach, they are more likely to accept the coach's instructions and be willing to cooperate with the coach by following those instructions. In contrast, with little trust in the coach, team members are not likely to cooperate with the coach.[4] As suggested by the above discussion, we proposed the following hypotheses:

Hypothesis 7: Athletes' trust in coach has a positive effect on the athletes' willingness to cooperate with the coach.

Hypothesis 8: Athletes' willingness to cooperate with coach has a positive effect on performance.

2.2.3. Effects of trust on performance

While the foregoing suggest the mediating effects of athletes' commitment and willingness to cooperate, trust may also have a direct effect on performance.[5,7,14,15] Shaw[14] holds that "trust must be treated as a structural and cultural characteristic of organizations, influencing performance on four different levels: organizational success; team effectiveness; one-on-one collaboration; and individual credibility". In our context, Dirks[4] found that the influence of trust in the leader on team performance is "not only important theoretically but also substantial in practical terms". His interviews with some coaches and players showed that trust in the coach resulted in better team performance because players accept their coach's decisions and follow coach's directives.

Hypothesis 9: Athletes' trust in coach has a positive effect on performance.

In summary, our model (Fig. 1) includes coach characteristics of justice, benevolence, integrity, and competence which are said to contribute to trust in the coach. Trust in the coach, in turn, fosters commitment to leader and willingness to cooperate both of which influence perceived performance. Finally, trust in the coach is said to have a direct effect also on perceived performance.

2.3. Competing models

In Fig. 1, full mediation would be indicated if Paths 1, 2, 3, and 4 are significant while Path 5 is non-significant. If all five paths are significant, it would become a partially mediated model. On the other hand, if Paths 2 and 4 are non-significant while the other three paths are significant, it would amount to a direct effects model. Accordingly a structural equation modeling analysis was carried out in which the entire model was specified. The resultant significance of path coefficients would show support for one of the models.

3. Methods

3.1. Sample

Two hundred and fifteen registrants in the premiere competitive or competitive sport clubs in a mid-western university returned the fully completed surveys. Of these, 51.2% ($n = 110$) were males while 48.8% ($n = 105$) were females. As for ethnicity, 85.6% ($n = 184$) were Caucasian, 5.6% ($n = 12$) Asian Americans, 4.2% ($n = 9$) Hispanic, 1.9% ($n = 4$) African-Americans, and 2.7% ($n = 6$) chose Others (i.e., multi-ethnical backgrounds). The respondents had been enrolled in the university for 2.50 ± 1.67 years (mean ± SD) and had worked under their coaches for 1.89 ± 1.52 years.

Measures. We adapted items from several established scales to measure the variables of our model. They are described below.

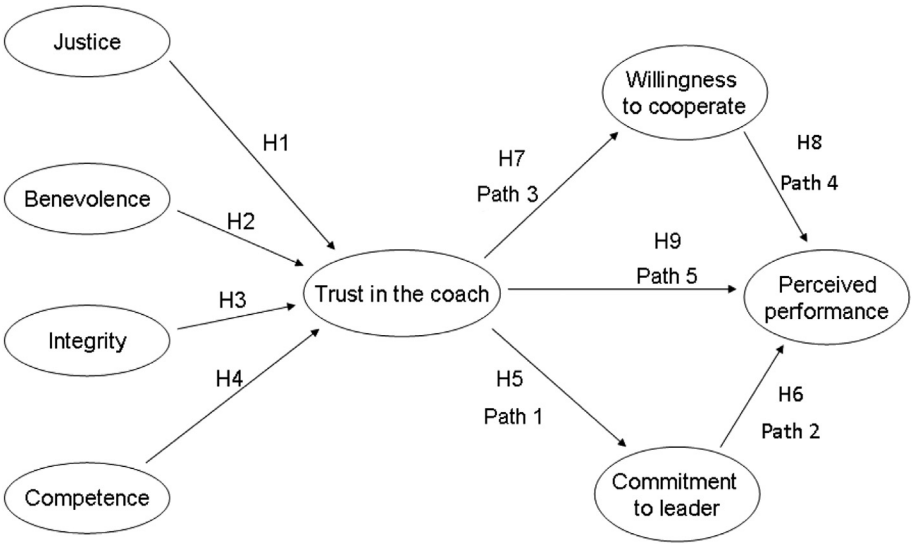

Fig. 1. Theoretical model of antecedents and consequences of trust in the coach. H = hypothesis.

Trust in coach. We chose two items from Dirks,[4] two from Mayer and Davis,[16] and one from Podsakoff et al.[17] A sample item is "I can freely share my ideas, feelings, and hopes with my coach".

Perception of justice. We adapted three items from Moorman's[18] scale and two items from Mayer and Davis.[16] A sample item reads as "my coach tries to be fair in dealings with athletes".

Perception of benevolence. We adapted five items from Mayer and Davis'[16] benevolence scale. An example of the items is "my coach really looks out for what is important to me".

Perception of integrity. Three items from Mayer and Davis[16] and two items from Butler[5] were adapted. A sample items is "my coach deals honestly with me".

Perception of competence. Five items were adapted from Mayer and Davis'[16] ability scale. A sample item reads as "my coach is very capable of performing the coaching job".

Commitment to a coach. We adapted five items from Becker et al.[13] An example of the items is "I feel a sense of belonging with my coach".

Willingness to cooperate. Four items were adapted from Scott et al.[19] We developed two more items relating to willingness to cooperate. A sample item is "I am willing to cooperate with my coach to get the work done".

The response format for all items in the above scales was a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

Performance. We measured respondent perceptions of personal and team performance using items from Reimer and Chelladurai's[20] Athlete Satisfaction Questionnaire (ASQ). A sample item reflecting satisfaction with individual performance is "the improvement in my performance over the previous season", and a sample item for satisfaction with team performance reads as "the team's overall performance this season". The response format was a 7-point scale ranging from 1 (*extremely dissatisfied*) to 7 (*extremely satisfied*).

3.2. Analyses

We employed confirmatory factor analysis (CFA) to examine the items in each of our eight variables, and the items that had a variance extracted (i.e., squared multiple correlation) less than 0.49 were deleted.[21] Following Little et al.,[22] we used the item parceling technique to reduce the indicators of perceived integrity ($n = 4$) and competence ($n = 5$) subscales to two in each. The final measurement model comprising of all the refined measures was tested in an overall confirmatory factor analysis. The next analytic step was the simultaneous estimation of the measurement and the structural models. SPSS 16.0 software and AMOS 16.0 (SPSS Inc., Chicago, IL, USA) were used to carry out all statistical analyses.

4. Results

4.1. The measurement model

The fit indices derived from the overall CFA (goodness of fit index (GFI) = 0.90; normed fit index (NFI) = 0.92; comparative fit index (CFI) = 0.97; parsimony normed fit index (PNFI) = 0.72; root mean square error of approximation (RMSEA) = 0.05 (90% confidence interval (CI) 0.03, 0.06)) indicated a close fit. Table 1 contains the estimated parameters of the model which indicate that all the items performed reasonably well. The standardized regression coefficients were all within the recommended range, and each item loaded on only one factor. Internal consistency estimates (Cronbach's α) for the measures ranged from 0.74 to 0.93.

The descriptive statistics, bivariate correlations, and the collinearity indices are provided in Table 2. The antecedent variables had a tolerance value ranging from 0.49 to 0.67 and a variance inflation factor value ranging from 1.50 to 2.02, showing that multi-collinearity was not an issue in structural equation modeling.[23]

A two-group multivariate analysis of variance (MANOVA) was conducted to examine if there were differences between the male participants and female participants on a linear combination of the perceived characteristics of the coach, the trust in the coach, and the consequence variables of trust in the coach. The result (Wilk's $\Lambda = 0.962$, F (8, 205) = 1.004, $p = 0.434$) indicated that there was no significant difference between males and females in any of the variables of the study.

4.2. Structural models

Following Anderson and Gerbing,[21] the refined measurement model and the proposed structural model of trust were tested simultaneously in this step. The fit measures (GFI = 0.90; NFI = 0.91; CFI = 0.96; PNFI = 0.73; RMSEA = 0.06 (90% CI 0.05, 0.07)) indicated that the model had a close fit to the data, and the model explained 27% of the variance in perceived performance. As Path 2 (from commitment to leader to perceived performance) and Path 4 (from willingness to cooperate to perceived performance) were non-significant, the model was tested again without those two paths and the results are shown in Fig. 2. The fit indices for this direct effects model (GFI = 0.90; NFI = 0.91; CFI = 0.96; PNFI = 0.73; RMSEA = 0.06 (90% CI 0.05, 0.07)) indicated a good fit. And the model explained 26% of the variance in perceived performance.

4.3. Hypothesis testing

4.3.1. Antecedents of trust

Hypotheses 1−4 were confirmed. Perceptions of a coach's justice ($\beta = 0.19$, $p < 0.05$), perceptions of a coach's benevolence ($\beta = 0.32$, $p < 0.05$), perceptions of a coach's integrity ($\beta = 0.14$, $p < 0.05$), and perceptions of a coach's competence ($\beta = 0.29$, $p < 0.05$) all had a positive and significant effect on athletes' trust in the coach, and they accounted for 61% of the variance in trust.

4.3.2. Consequences of trust

Hypothesis 5 suggesting that athlete's trust influenced athlete's commitment to leader was supported ($\beta = 0.77$, $p < 0.01$) resulting in explained variance of 60% (Fig. 2). Similarly, hypothesis 7 suggesting a relationship between trust

Table 1
Estimated parameters of the measurement model.

Measure and variable	Factor loading	SE	α
Trust in the coach			0.74
1. I can freely share my ideas, feelings, and hopes with my coach.	0.77	0.08	
2. I would be comfortable giving coach a task or problem that was critical to me.	0.77	0.08	
Perceived justice			0.90
1. My coach appreciates the work done by every athlete.	0.77	0.07	
2. My coach tries to be fair in dealings with athletes.	0.95	0.07	
3. My coach has a strong sense of justice.	0.88	0.07	
Perceived benevolence			0.86
1. My coach really looks out for what is important to me.	0.85	0.07	
2. My needs and desires are very important to my coach.	0.83	0.07	
3. My coach is willing to go out of the way to help me.	0.80	0.07	
Perceived integrity			0.91
1. My coach deals honestly with me.	0.90	0.07	
2. My coach always tells me the truth.	0.79	0.07	
3. Sound principles seem to guide my coach's behavior.	0.87	0.07	
4. I like my coach's values.	0.85	0.08	
Perceived competence			0.93
1. My coach has special abilities that can increase our performance.	0.81	0.07	
2. My coach is very capable of performing the coaching job.	0.89	0.07	
3. My coach is known to be successful at the things he/she tries to do.	0.84	0.07	
4. I feel very confident about my coach's skills.	0.89	0.07	
5. My coach has much knowledge about the work that needs done.	0.86	0.07	
Commitment to coach			0.76
1. Since joining this team, my personal values and those of my coach have become more similar.	0.72	0.08	
2. I feel a sense of belonging with my coach.	0.85	0.08	
Willingness to cooperate			0.77
1. I am willing to cooperate with my coach to get the work done.	0.69	0.07	
2. I am willing to communicate with my coach.	0.90	0.07	
Perceived performance			0.86
1. My team's victories this season.	0.81	0.09	
2. The extent to which the team has met its goals for the season thus far.	0.80	0.07	
3. The improvement in my performance over the previous season.	0.86	0.07	

Note: All factor loadings were significant with $p < 0.001$. SE = standard error.

in coach and willingness to cooperate was supported ($\beta = 0.79$, $p < 0.01$), explaining 63% of the variance in willingness. Trust in the coach had a significant positive effect ($\beta = 0.51$, $p < 0.01$) on perceived performance accounting for 26% of the variance. However, hypotheses 6 and 8 pertaining to the mediating effects of commitment to coach and willingness to cooperate respectively were not supported.

5. Discussion

We explored the formation of athlete's trust in the coach and the outcomes of such trust. It is encouraging that the CFA results did show that the measurement model fit the data very well. The techniques for parceling items in multi-item scales advocated by Little et al.[22] have proved very useful in our

Table 2
Means, correlations, and tests for multi-collinearity.

									Collinearity	
Variable	1	2	3	4	5	6	7	8	Tolerance	VIF
Mean										
Female	5.83	5.71	5.80	5.74	5.68	5.37	6.29	5.53		
Male	5.73	5.55	5.80	5.89	5.54	5.45	6.25	5.57		
All	5.78	5.63	5.80	5.82	5.61	5.41	6.27	5.55		
SD	1.13	1.08	1.15	1.14	1.12	1.18	0.75	1.07		
1. Perception of justice	1.00								0.49	2.02
2. Perception of benevolence	0.65**	1.00							0.51	1.94
3. Perception of integrity	0.56**	0.58**	1.00						0.56	1.77
4. Perception of competence	0.51**	0.44**	0.50**	1.00					0.67	1.50
5. Trust in leadership	0.60**	0.55**	0.55**	0.57**	1.00				0.52	1.91
6. Commitment to a coach	0.42**	0.40**	0.39**	0.43**	0.64**	1.00			0.52	1.91
7. Willingness to cooperate	0.44**	0.44**	0.47**	0.40**	0.58**	0.58**	1.00		0.59	1.69
8. Perceived performance	0.36**	0.46**	0.29**	0.35**	0.52**	0.46**	0.44**	1.00		

Note: $n = 215$. ** Correlation is significant at the 0.01 level (2-tailed). VIF = variance inflation factor.

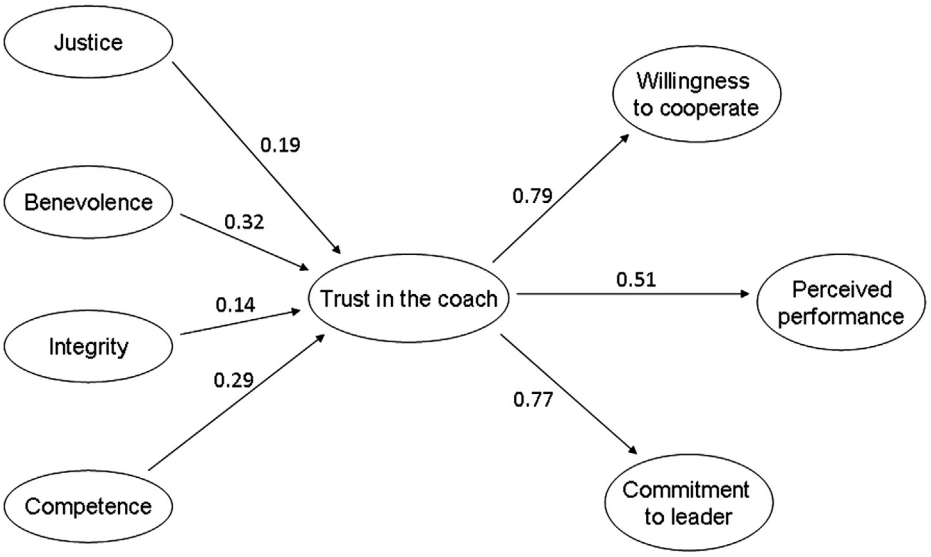

Fig. 2. Coefficients for the direct effects model. Note: The values in the figure represent the β coefficients for the paths.

study. Future research employing subscales with four or more items may employ one of the parceling techniques. While the CFA results allow us to place confidence in testing the structural model, the invariance of the measurement model should be tested in other contexts such as collegiate athletic teams and professional teams.

While the four antecedent variables in our model jointly accounted for 61% of the variance in athletes' trust in leadership, the degree of association between the four perceived characteristics and trust varied. Perceived benevolence of coaches was most closely associated with athletes' trust ($\beta = 0.32$, $p < 0.05$). Following benevolence were competence ($\beta = 0.29$, $p < 0.05$), justice ($\beta = 0.19$, $p < 0.05$), and integrity ($\beta = 0.14$, $p < 0.05$) in that order. The two dominant characteristics of benevolence and competence in generating trust in the coach parallel the dichotomy of task and interpersonally oriented leader behaviors. This implies that a coach needs to exhibit his/or concerns for both the task at hand and the welfare of the athletes through appropriate leader behaviors.

While it is noteworthy that trust explained 26% of the variance in perceived performance, it needs to be verified if this relationship will be replicated with objective data of performance. But given that an athlete or a team could have performed their best and yet lose in a competition, future studies may incorporate both objective measures and athlete perceptions. Further, while 61% of variance of trust in leadership was explained by our antecedents of trust model, there is still 39% variance left unexplained. Future research may explore other variables that influence trust in leadership in sport. Another area worthy of study is the possible circularity of the relationships between performance and perceived characteristics of the coach. For example, with increasing performance, the athletes are likely to attribute such increases partly to the competence of the coach which, in turn, would elevate the level of trust in the coach.

While a focus on the trust that the athletes had in their respective coaches is necessary, it is also important to study the reciprocal nature of trust between the coach and the athlete. There is evidence in the management literature for the mutually reinforcing and spiraling nature of trust between the leader and member.[15] In our context, the trust an athlete has in the coach may indeed be a function of the trust that coach has in the athlete. This is the essential thrust of the body of work on coach–athlete relationship carried out by Jowett and Poczwardowski.[24] Future research might examine this possibility by assessing the trust placed by the athlete and coach in each other.

In most instances, the athlete and coach operate under an organization with its own unique characteristics and performance imperative. Our sample were drawn from sports clubs operating under the rules and regulations specified by the campus recreation department. Similar teams under the intercollegiate athletic departments or in the professional leagues would be subject to different organizational contingencies and performance expectations. Future research needs to verify the effects of organizational types and the structural arrangements thereof on the dynamics of trust between the coach and players.

The present respondents based on their perceptions of coaches' characteristics are solely based on their repeated interactions with the coach. In contrast, the athletes in intercollegiate athletics and professional sports are constantly exposed to comments by sports experts, fans, and the media. An athlete's trust in the coach is likely to be enhanced if the media comments are positive and dampened if such comments are negative. Thus, future research needs to test the validity and the invariance of the model with intercollegiate athletic teams and professional teams.

From a different perspective, leadership models in sport may take into consideration the dynamics of trust between the coach and athletes. More specifically, the leader behaviors that cultivate and promote athlete perceptions of coach's

competence, justice, benevolence, and integrity need to be included in the description of effective leader behaviors in coaching. While existing scales of leadership in sports[25] include dimensions that are implicitly suggestive of these four characteristics, future revisions may include more explicit reference to them. By the same token, realizing that trust in them influences performance coaches need to cultivate and enhance their athletes' trust by exhibiting those behaviors that demonstrate their competence, benevolence, justice, and integrity.

Finally, our suggestion of indirect linkages between trust and performance through commitment to coach and willingness to cooperate is, to the best of our knowledge, the first empirical examination of these relationships in the context of sports. Although these hypothesized relationships were not supported in the present data set, they should not be abandoned because of the strong theoretical and empirical support for them in the literature. Future research involving different data sets may indeed support these relationships. From a different perspective, commitment to the coach and willingness to cooperate may themselves be considered significant outcome variables in the coaching context. Accordingly, inclusion of these variables in future research would be justified.

In addition, a drawback in the data of the present study is that it does not contain the information on whether several respondents belonged to the same team. If this were so, their responses could have been clustered and thus it would have been necessary to consider within and between group factor structures. Future research including such information should carry out factor analysis of clustered observations and confirm the results of present study.

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