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Trust in Leadership and Team Performance: Evidence from NCAA Basketball

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Abstract

This study empirically examines the relationship between trust, leadership, and team performance with two objectives. The first objective is to empirically examine an assumption found in several literatures – that a team’s trust in their leader has a significant effect on the team’s performance. The second objective is to explore a more complex and dynamic relationship between trust and team performance whereby trust in leadership mediates the relationship between past team performance and future team performance. This relationship is derived by combining theories of trust with an attributional theory of leadership. Survey and archival data from a sample of men’s college basketball teams provides support both hypotheses indicating that trust in leadership is both a product and determinant of team performance.

In the past three decades, research from several literatures in applied psychology, as well as writings in the popular press, have implied that a higher level of trust in a leader results in higher team (or organizational) performance (e.g., Bennis & Nanus, 1985; Fairholm, 1994; Golembiecki & McConkie, 1975; Kouzes & Posner, 1987; Likert, 1967; McGregor, 1967; Zand, 1972, 1997). This proposition has served as the basis for claiming that trust is an important variable in applied settings and therefore deserves further research. The proposition also provides a justification for the importance of management practices such as leadership development and team building.

Despite the importance for research and practice, the relationship between trust in leadership and team performance has been the subject of little empirical research. The purpose of this article is to address two specific issues. First, does trust in a leader affect team performance? At this point, there is no empirical evidence to directly substantiate the proposition that a higher level of trust in a leader results in higher team performance. It is dangerous to use this untested assumption as basis for research and practice -- particularly given that related studies on the main effects of trust in team mates on team performance have provided very inconsistent results (Dirks & Ferrin, in press). Second, this study explores a more complex and dynamic relationship between trust and team performance. Specifically, the study examines whether trust in leadership mediates the relationship between past team performance and future team performance. This idea advances prior research, which has focused on a uni-directional relationship (trust → team performance), by examining how trust is both an important product and determinant of team performance.

In addressing the above issues, this research is intended to contribute to the growing literature on the role of trust in applied settings (Kramer, 1999), as well as the more established literatures on leadership and group performance. Given the frequency of use of teams in applied settings, understanding the role of trust in leadership within teams is particularly important for research and practice.

Theory and Hypotheses

Trust

Clearly, trust has been defined in multiple ways in the literature. Although each researcher has slight variations, most empirical studies seem to conceptualize and measure trust as an expectation or belief that

one can rely upon another person's actions and words and/or that the person has good intentions toward oneself (e.g., Cook & Wall, 1980; Cummings & Bromiley, 1996; Dirks, 1999; McAllister, 1995; Robinson, 1996). As Mayer, Davis, and Schoorman, (1995) and Rousseau, Sitkin, Burt, and Camerer, (1998) note, trust is most meaningful under situations where one party is at risk to or vulnerable to another party.

In this study, the focal referent of that belief or expectation is the leader of the team. Specifically, the study will conceptualize trust as an expectation or belief that the team can rely upon the leader's actions or words and/or the leader has good intentions toward the team. Trust in leadership is a meaningful concept in many teams, because the leader typically has the most formal power on the team (Bass, 1990), causing others to be vulnerable to him or her. As will be discussed later, I will also take into account the extent to which team members trust each other – since they are also vulnerable to each other given their interdependence.

The Effect of Trust in Leadership on Team Performance

The idea that trust can have an important influence on team performance can be found in several literatures, as well as in management practices. In the early literature on organizational psychology, Argyris (1962), McGregor (1967), and Likert (1967) professed the significance of trust in leadership for effective teams and organizations. Consistent with these ideas, current researchers studying trust have suggested that it is an important element of effective work groups (e.g., Golembieski & McConkie, 1975; Larson & LaFasto, 1989). Other researchers have begun to empirically examine the effects of trust in leadership on workplace outcomes including organizational citizenship behavior, information sharing, goal acceptance, and task performance (Oldham, 1975; O'Reilly & Roberts, 1974; Podsakoff, MacKenzie, Moorman, & Fetter, 1990; Rich, 1997). Multiple theories of leadership have also cited the critical role of trust. For example, charismatic leaders build trust in their followers (Kirpatrick & Locke, 1996; Shamir, Zakay, Breinen, & Popper, 1998); integrity or trustworthiness is an important trait of leaders (Bass, 1990); trust is a core basis of effective leadership (Bennis & Nanus, 1985; Fairholm, 1994; Zand, 1997); and trust is central in subordinates' perceptions of effective leadership (Hogan, Curphy, & Hogan, 1994). Lastly, a number of management practices, such as leadership development programs, recognize the importance of trust to varying degrees

(e.g., Conger, 1992; Peterson & Hicks, 1996). To date, however, the idea that a team's trust in their leader has a main effect on team performance has not yet been directly empirically examined or validated.

The studies cited above share a common theme on why trust in leadership is assumed to be an important determinant of team performance. In short, trust in leadership is important in that it allows the team to be willing to accept the leader's activities, goals, and decisions and work hard to achieve them. The leader's role typically involves a number of activities related to team performance such as determining team member roles, distributing rewards and motivating employees, developing team members, and setting the team's goals and strategies, and so on. When the team feels that they can not rely upon the leader and/or that the leader does not have their interests at heart, they are unlikely to carry out the roles specified by the leader, and work toward the performance-related objectives and strategies set by the leader. This will make it difficult for the team to work together effectively and perform at a high level.

Although elements of this idea can be found in several domains of leadership research, the literature on transformational and charismatic leadership provides perhaps the best case-in-point. Trust in leadership is cited as one means by which transformational leadership operates (Yukl, 1998).¹ Podsakoff et al., (1990) empirically examined how trust mediated the effect of transformational leadership on subordinates' working beyond role expectations. Others have suggested that trust is important if followers are to accept the goals, beliefs, or vision of the leader (Bennis & Nanus, 1985; House, 1977). One might hypothesize that these effects will be particularly important under conditions of perceived uncertainty (Waldman & Yammarino, 1999). For instance, under high levels of perceived uncertainty, trust in the leader may be crucial for getting individuals to buy into a common goal and work toward it as a unit. Given little trust in the leader, team members are unlikely to be willing to sacrifice their interests for team or its goals in a context of uncertainty.

Hypothesis 1. Trust in leadership will have a positive effect on team performance.

It is important to note that the effect of trust in leadership is distinct from the potential effect of another form of trust within a team that has received attention in the literature: trust in team mates (work partners). Prior empirical research examining the role of trust in teams has focused on the proposition that a higher level of trust between team members results in higher team performance (e.g., Dirks, 1999; Klimoski

& Karol, 1976) – although the results have been mixed (Dirks & Ferrin, in press). This proposition is built on the logic that trust increases the ability of group members to work together, which in turn increases team performance (Larson & LaFasto, 1989). While the distinction between trust in leader and trust in teammates is implicit in the literature, it has not been clarified nor has it been used empirically. In this study I will empirically control for the potential effects of trust in team members, when examining the impact of trust in leadership on team performance.

Trust as Mediating the Effects of Past Performance on Future Performance

The logic in the prior section, as well as existing research, was and has been focused on a relationship between trust and team performance that is uni-directional – i.e., trust affects team performance. In this section, I examine a more complex relationship between trust and team performance, whereby trust mediates the relationship between past and future team performance. Doing so may help advance understanding of trust from a simple uni-directional relationship to a more sophisticated and dynamic relationship. The foundation for this argument is derived by combining theories of trust with attributional theories of leadership.

The idea that trust has multi-directional relationships with other variables has a precedent in research that has theorized that trust is inter-related with risk-taking behaviors (Butler, 1995; Golembieski & McConkie, 1975; Mayer et al., 1995). To date, however, research has not discussed such a relationship between trust and group performance. A multi-directional relationship between trust and performance may, however, be derived from Bhattacharya, Devinney, and Pillutla's (1998) proposition that trust involves expectations about outcomes associated with another party, under uncertainty. From this definition, one can argue that expectations about future outcomes under situations of uncertainty are likely to be created by observing past outcomes produced by the party. In other words, observations of past outcomes (e.g., performance) are likely to shape those expectations, particularly in an uncertain environment.

Although the above idea helps explain why past performance of a team might influence trust, it does not speak to why the belief might be transferred to the leader. Attributional theories of leadership provide the explanation. According to Lord and Maher (1991: 55), "people tend to assume that a major function of

leaders is to produce good performance outcomes, and they infer leadership from knowledge of successful task or organizational performance.” Studies have suggested that because of the ambiguity involved in team or organizational performance, individuals tend to make inferences about the leader on the basis of information about past performance (Lord & Maher, 1991; Meindl, Ehrlich, & Dukerich, 1985). Positive qualities tend to be inferred from high team performance and negative qualities tend to be inferred from poor team performance (Staw, 1975).²

Hence, in the present case, the team would perceive a team’s past performance, and would be likely to attribute (correctly or incorrectly) that performance to the team’s leader. After attributing the performance to the team’s leader, team members may come to form expectations about team outcomes from those attributions – and hence may be more or less willing to trust the leader. Perceiving low performance may cause the team to expect low team performance in the future, and make them unwilling to trust the leader and unwilling to “put themselves in the leader's hands.” In contrast, perceiving high team performance in the past may cause the team to expect high team performance in the future, and make them willing to trust the leader, and willing to put themselves in his hands.

In sum, trust in the leader seems to be a viable cognitive process through which past performance is translated into future performance.

Hypothesis 2. Trust in leadership mediates the relationship between past team performance and current team performance.

Methodology

Sample

The above questions were examined using a sample of men’s college basketball teams who were members of the National Collegiate Athletic Association (NCAA). Head coaches of teams were identified using the NCAA directory and were contacted either by mail or by telephone. Teams from Division I and Division III were contacted to obtain maximum variation in teams within the NCAA. Thirty-four teams originally agreed to participate by completing surveys; data was eventually received from thirty-one teams. One team was subsequently dropped from the analysis, when it was determined the coach was new, leaving a

total of thirty teams (11 Division I and 19 Division III). The thirty teams are members of twelve different conferences located in the midwestern and western United States. In these thirty teams, 355 individuals completed surveys.

College basketball teams are an attractive setting, both empirically and theoretically, for studying the relationship between trust and team performance. Empirically, the setting provides a reliable and valid measure of team performance that is independent of team members' perceptions (which will be the source of measure of trust). In addition, the setting provides access to reliable and objective measures of control variables. Lastly, each team operates under the same guidelines (NCAA rules) and has the same performance objectives. Because these issues typically present problems in collecting data on teams, the present sample is attractive. Theoretically, basketball teams provide a setting where trust in leader and trust in teammates is likely to be meaningful. Teams are highly vulnerable to the coach because the coach controls many resources (e.g., playing time, key decisions) that are valuable to the team. In addition, given the interdependence on the team, basketball teams provide a setting where players are highly vulnerable to each other. Lastly, there is significant uncertainty (actual and perceived) for players on important issues including the likelihood that a coach can help a team win, the performance of one's own team and opposing teams throughout the season, and the amount of playing time one will receive. As noted earlier, perceived vulnerability, interdependence, and uncertainty are likely to be important factors for trust in leadership³.

Measures

The measurement strategy was intended to maximize internal validity through three procedures. First, data were collected from different sources and different methods to remove the potential for inflated statistical relationships. Second, the procedures attempted to make the timing of data collection appropriate. Data on trust were collected in the first few weeks of the conference schedule and data on group performance were gathered during the conference schedule. This served several purposes. By the beginning of the conference schedule, the entire team had practiced together in the present season for at least six weeks and played several games, in addition to any prior experience together. This should have allowed a relatively stable level of trust to form. In addition, the timing increases the ability to draw conclusions of causality by

measuring trust at the beginning of the performance period. Third, the study includes measures of alternative predictors (control variables) of team performance representing elements of the coach (experience, career record) and players (talent, trust, tenure). Note that two variables (past performance, pre-conference performance) capture elements of the coach, players, and institution.

A series of one-hour interviews were conducted with coaches and players to make sure that the measures described below were appropriate for the sample. Information from the interviews was used to gain a better understanding of the context and the dynamics related to trust in leader.

Trust in leader (coach). The trust variable was measured using an adaptation of the instrument reported in McAllister (1995). Two adaptations were made to the instrument, on the basis of interviews with basketball coaches. First, two items were dropped, as interviews with coaches suggested they would not apply in this context. This left nine items. Second, minor wording changes were made to the items to reflect the context (e.g., the referent was changed to “coach”). The items are provided in the Appendix.

Each player on the team was asked to complete a survey⁴. The mean number of respondents for each team was twelve. Response rates per team ranged from 50% to 100%, with an average of approximately 88%. These data were transformed into a trust score for each team through a two-step process. First, a score for each individual was computed by summing the responses to the nine items on the survey. Next, the team level of trust was computed by using the mean scores of the players.

A principal components factor analysis indicated that all items loaded onto a single factor (eigenvalue = 7.23) that accounted for 80% of the variance. Items loaded on the factor at values ranging from .84 to .96. Coefficient alpha for the scale was .96.

As noted above, the data were aggregated to the team level. Aggregating the data to the team level is consistent with Rousseau’s (1985) suggestion that the level of analysis be chosen based on the focal unit of the study – the team. Focusing on the team level of analysis was particularly important in this case, because the dependent variable, team performance, is a function of the entire team’s efforts (i.e., an aggregation of them). Hence, it would not be meaningful to examine the relationship between a single individual’s attributes and the team’s performance. In addition, this practice is consistent with the practice of the teams themselves,

as they aggregate individual factors (e.g., turnovers) to a team level when attempting to understand the bases of team performance. Since it is necessary to determine if aggregation is empirically justifiable, I performed the eta-squared test (Georgopolous, 1986). The analysis yielded an eta-squared of .35, which exceeds the .20 hurdle used in prior research (e.g., Jehn & Shah, 1997), thus indicating that it was appropriate to aggregate the data. As a second check, I computed R_{wg} (James, DeMaree & Wolf, 1984) which was an acceptable .87.

Team performance. In a season, teams play a series of games with approximately two-thirds of them being played against an opponent from one's "conference" (e.g., Big Ten). The success of a season is typically judged by the ratio of wins to total games in a season (i.e., the frequency with which a team outscores their opponents). In this study performance is measured by the team's ratio of wins in the conference schedule to total games played in the conference schedule. Data were collected from NCAA and/or team records. The mean number of conference games played by teams in this sample was sixteen.

Performance in the conference schedule was utilized for several reasons. For most teams, the conference schedule is a critical performance period because of longstanding rivalries among teams within the conference, the crowning of a conference champion, and success in it provides a primary avenue to post-season play. In addition, using only the conference schedule for team performance serves to reduce the variation in the talent of the team's opponents, as the non-conference schedule often includes teams of much less or much greater talent. As discussed later, using the conference schedule also facilitates the creation of a talent measure for a control variable. Lastly, it is a performance indicator that all teams have in common.

Prior team performance. Prior team performance is a measure of how well the team has performed over the past several seasons. I collected data on the ratio of wins in the conference schedule to total games played in the conference schedule for each team for the prior four seasons. The mean ratio served as the indicator of prior team performance.

Trust in team mates (players). Trust in team mates was measured using the same scale and procedure as used to measure trust in leader. The difference was that referent specified in the items was changed to "players."

A principal components factor analysis indicated that all items loaded onto a single factor (eigenvalue = 6.94) that accounted for 77% of the variance. Items loaded on the factor at values ranging from .82 to .93. Coefficient alpha for the scale was .96. The eta-squared value was .28, and R_{wg} was .87 indicating it was appropriate to aggregate the data.

Team talent. The level of talent on a team, particularly a sports team, is likely to be an important determinant of team performance (Jones, 1974). College basketball has a well-established procedure for identifying its most talented players. At the end of the season, each conference polls its coaches about which players, within the conference, performed at the highest levels. The result is an “all-conference team.” The all-conference team typically consists of several different tiers signifying increasing levels of performance or talent: second team, first team, and most valuable player (MVP, the single top performer, typically selected from the first team). Hence, the number of players on a participating team that were elected to the all-conference team should be an indicator of the level of talent on the former.

In order to construct a measure of team talent, two issues must be dealt with. First, conferences vary on the number of players they elect to the first and second teams. Second, all conference teams have tiers that signify different levels of talent. To create a single measure of team talent and deal with these two issues, a formula was created involving two steps. In step one, conference records were used to determine the number of representatives (if any) for the participating team on the second team, first team, and MVP position, respectively. Given variance across conferences in the number of players included on the different teams, this was standardized by dividing the number of representatives by the total number of players elected to each category (e.g., first team). If a participating team had the MVP, this score was divided by five (as there are typically five players on the first team) and did not count that individual on the score for the first team. In step two, in order to recognize the differences in status between levels, a procedure was adapted that Pollock (1998) used for comparing status among organizations. The scores from step one were multiplied by a value equal to the inverse of their status, divided by the number of status levels.⁵

The measure appears to have reliability and predictive validity. To estimate the potential reliability of the coaches' votes, the all-conference team, as elected by coaches, was compared with the all-conference

team, as independently elected by media over a five-year period using a conference in which both sets of data were available. The analysis indicated that there is reasonable consistency between the two types of “raters”. Ninety-two percent of the players elected to the all-conference team (as members of first or second team) by coaches were also elected to the team by the media. There is also some tentative evidence of predictive validity for this measure: the correlation between talent and team performance in this study is almost identical to that found by Jones (1974), who used a sample of professional basketball players.

Coach career record. The extent to which a coach is consistently successful or unsuccessful over a number of seasons is an indicator of the coach's skill and his reputation for being a skilled coach. A variable was created to take these two factors into account. Specifically, a score for each coach was created using the following formula: career winning percentage * (1 - 1/seasons coached). The first part of the equation captures the overall success ratio of the coach. The latter part of the equation is intended to recognize the fact that a high winning percentage accumulated over many (e.g., 25) seasons is worth substantially more in terms of reputation and skill than a high winning percentage accumulated over a few (e.g., 5) seasons. The variable has significant zero-order correlations with performance in the current season ($r = .39$) and prior seasons ($r = .44$) which provide tentative evidence of its predictive validity. Data were collected from NCAA records.

Players' tenure. The length of time that respondents had played under the coach was measured by self-report on the survey. The variable is the mean tenure.

Coach experience. Coach experience is a potential indicator of knowledge and acquired skill. The variable is measured in number of games coached by head coach in his career.

Pre-conference performance. One may suggest that the correlation between trust in leader and team performance (within conference) is an artifact of factors associated with team performance during the current season. To control for this possibility, the team's winning percentage in the pre-conference schedule (i.e., the period immediately before the survey data were collected) was included as a variable.

Results

A regression procedure for mediation (Baron & Kenny, 1986) was used to examine both hypotheses. The procedure involves estimating three separate regression equations: (a) the mediator is regressed on the independent variable, (b) the dependent variable is regressed on the independent variable, and (c) the dependent variable is regressed on both the independent variable and the mediator. The following conditions must be met in each equation, respectively: (a) the independent variable must affect the mediator, (b) the independent variable must affect the dependent variable, and (c) the mediator must affect the dependent variable. Lastly, in order to support mediation, the effect of the independent variable on the dependent variable must decrease in magnitude when the mediator is added in the third equation. While all three regressions are needed for examining hypothesis two (mediation), only the third regression is necessary for examining hypothesis one. Hence, past performance can serve as a control variable in hypothesis one, even if trust does not act as a mediator. In all three regressions, control variables were entered first.

Descriptive statistics are provided in Table 1. For each of the regression equation, residual plots were examined to verify that regression assumptions were met (Neter, Wasserman, & Kutner, 1990). In addition, the variance inflation factors (VIFs) were examined in the regression analyses to determine if multi-collinearity was operating. The highest VIF was 5.4, with the mean of the VIFs for being 2.9. According to the guidelines provided by Neter et al., (1990: 408-410) these statistics indicate that multi-collinearity is unlikely to be problematic. Lastly, analysis was conducted to verify that the relationship between trust in coach and team performance did not differ significantly by division.

 Insert Table 1 about here

The estimates for the three regression analyses are provided in Table 2. The data provide support for hypothesis one. After controlling for several potential determinants of performance, trust in the coach has a significant effect on winning percentage ($\beta = .44, p < .05$).

Insert Table 2 about here

Since trust had a significant effect on winning percentage, mediation can be examined. In the first two equations, the preconditions for mediation are fulfilled (see Table 2): past performance does have a significant effect on trust ($\beta = .61, p < .01$) and past performance does have an effect on winning percentage ($\beta = .44, p < .05$), after controlling for other variables. When trust is added in the third equation ($\beta = .44, p < .05$), the coefficient for past performance decreases in magnitude ($\beta = .20$) and becomes statistically insignificant. Hence, the pattern of results from these three equations provide support for trust mediating the relationship between past performance and future performance.

Trust in leadership and the control variables account for a substantial portion of the variance in team performance ($R^2_{\text{adj}} = .66$). Variables other than trust in leadership that demonstrate significant bivariate correlations with team performance include team talent, past team performance, pre-conference performance, coach record (but not coach experience), and trust in team mates.

Discussion

Much of the current interest in trust arguably stems from its assumed (and relatively empirically unvalidated) impact on the performance of various social units. The present study examines the significance of trust by exploring potential relationships between trust in leadership and team performance. The study provides several noteworthy findings. First, the finding that trust in leader has an effect on team performance has significance for theory and practice. This evidence validates an idea that is fundamental to theories of trust and leadership, and provides a basis for management practices. Although prior research has focused on the effects of trust in leadership in various behaviors and attitudes, this is the first study to directly examine its effects on performance -- arguably the most important criterion. The findings suggest that the effects of trust on team performance are not only important theoretically, but also substantial in practical terms. For example, after taking into account a number of alternative determinants of team performance, trust in coach accounted for a significant amount of variance ($\Delta R^2_{\text{adj}} = .07$). A qualitative examination of the data

illustrates the substance of this difference. The two teams reporting the highest levels of trust in their coach early in the season excelled: one team was ranked as the number one team in the nation for the latter part of the season before being upset in the NCAA tournament, and the other team ended up playing in the championship game for the national title. In contrast, the team with the lowest level of trust in their coach won approximately 10% of their conference games and the coach was fired at the end of the season.

The effect of trust in leadership was particularly interesting when compared to the effect of another frequently cited determinant of team performance – trust in teammates. Although the effect of trust in leadership was substantial and significant, trust in teammates was not significant after controlling for other variables, despite being studied in a context that theoretically should have allowed both variables to be important. While some may consider this to be surprising, they should note that other researchers have also found that trust in a partner does not have a main effect on the performance of the group or dyad (e.g., Dirks, 1999; Kimmel et al., 1980). The relative importance of trust in these two different referents for group outcomes provides an interesting direction for future research. Researchers might, for example, examine if the relative importance of trust in leader versus trust in team differs by the type of task the team performs. For instance, would the relative importance of the two referents differ if the team was engaging in a problem solving task (e.g., creating new product or idea) as opposed performing a physical task that required carrying out a strategy (particularly in situations where the leader champions the strategy)? To date, there is not enough research on trust to address this question.

The results of the current study provide initial evidence that trust in leadership is a critical to team effectiveness in some situations. Building on the theory discussed earlier, one might speculate that trust in leadership is particularly important because the decisions are of great importance to the team and must be embraced by followers in order for the team to perform well. Exploratory interviews with coaches and players provided some tentative support for this idea. According to one coach, trust “allows players to be willing to accept their role so that they can do what it takes to win” and to “be willing do things that we ask of them that are unpleasant or hard, but are necessary to win.” Likewise, a player commented that “once we developed trust in Coach _____, 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.” Hence, trust in leadership allows the team to suspend their questions, doubts, and personal motives and instead throw themselves into working toward team goals. Future research might explore these ideas empirically.

While past research on trust had focused on the effects of trust on team performance, this study suggested that a more complex relationship may exist than previously theorized. Specifically, the study provided theory and evidence that trust mediated the relationship between past performance and future performance. This provides several interesting implications. One implication of this idea is that trust in the leader is not only a determinant of team performance, but also a product of it. Although researchers have suggested that trust might have such a relationship with behaviors (e.g., Mayer et al., 1995), they have not yet examined theoretically, let alone empirically within a single study, this idea with regard to performance.

On the basis of the findings of the mediating role of trust, one might speculate that trust in a leader plays a crucial role in helping translate past performance of a team into future performance. Prior research by Hackman (1990) “found considerable evidence to support the dictum, that, over time the rich get richer and the poor get poorer” (p. 481). While existing research on this topic appears to be focused on team efficacy (e.g., Lindsley, Brass, & Thomas, 1995), this study suggests that one of the reasons that the inertia in performance can be sustained is because performance affects the team’s trust in its leader, that in turn, affects team performance. For example, low levels of past performance may be translated into low levels of future performance, because the team does not trust the leader and is unwilling to accept his decisions, goals, and strategies. Future research might consider the significant role trust might play in this phenomenon.

The more complex relationship noted above was derived by combining theories from the trust and the leadership literatures to explain why past performance influenced a team’s trust in their leader. The data suggest that this effect was quite strong. This evidence suggests that researchers should consider trust as having the potential to be both an outcome and a determinant of organizational outcomes. The finding also suggests that future research on the determinants of trust in leader should clearly take past performance of a relationship into account.

Implications for Practice

The increasing use of work teams make the findings important for practice. This is particularly the case, as much of the existing research on trust has been focused on individuals. Given some evidence that trust in leadership can affect team performance, we can begin to speculate about the implications for selecting, evaluating, training, and retaining leaders for teams. On the basis of the present study, trust, whatever its origins, appears to be a valid criterion for these decisions as it can have performance implications.

Given that trust is important, leaders may consider existing research on how trust can be built via their actions. For example, research suggests that leaders can build trust by engaging in transformational leadership behaviors such as role modeling (Podsakoff et al., 1990; Rich, 1997), by creating fair processes (Korsgaard, Schweiger, & Sapienza, 1995), and/or by allowing followers to participate in decision making (Magner, Welker, & Johnson, 1996).

Lastly, the data from this study highlight the fact that there are many determinants of team performance, of which trust is only one. For example, team talent appeared to be the single greatest determinant of team success in this sample. Clearly, leaders need to attend to many of these factors to create successful teams.

Limitations and Directions for Future Research

This study has several limitations that provide opportunities for future research. First, the correlational design of the study does not completely rule out all plausible relationships between trust and team performance. For example, despite the statistical support for mediating the relationship between past performance and future performance, and statistically controlling for other key constructs, the design can not completely rule out the possibility that trust is co-occurring with group performance, as opposed to affecting it directly. This idea needs to be ruled out using an experimental method.

Second, this study provides data from a single setting – men's college basketball teams. While the teams in this sample share numerous attributes (e.g., performance objectives, ongoing relationships, existing roles and norms) common to most teams of interest to applied psychologists, it is important to highlight differentiating attributes. One of the most common attributes used to differentiate groups is their task

(McGrath, 1984). The task of the teams in this sample primarily involved the execution of manual or psychomotor tasks, as opposed to intellectual tasks. As McGrath (1984: 65, 114) notes, these type of tasks arguably constitute much of the work of groups in organizations, but are often overlooked in research. A second factor to note is that I intentionally chose teams with hierarchical leader-member relations (i.e., “manager-led teams” – see Hackman, 1990) and high levels of interdependence to create high levels of actual vulnerability. Vulnerability is likely to help maximize the magnitude of the effects of trust; therefore, the magnitude of the effect in the present sample may be higher than samples of less hierarchical teams. Even if the effect was smaller in other contexts, trust in leadership would, however, still likely to be important given the magnitude of the effect in the present study.

Lastly, as discussed earlier, higher levels of perceived vulnerability (Rousseau et al., 1998) and/or perceived uncertainty (Waldman & Yammarino, 1999) may increase the impact of trust in leadership on team performance. Although not assessed in this study, these factors are likely to vary between teams for a variety of reasons (e.g., higher levels of player turnover, autocratic leadership styles). Future research directed at examining the potential moderating effect of perceived vulnerability and/or perceived uncertainty (and the factors creating them) may advance knowledge onto the conditions under which trust in leadership is more or less critical to team success.

References

- Argyris, C. (1962). Interpersonal competence and organizational effectiveness. Homewood, IL: Dorsey.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. Journal of Personality and Social Psychology, *51*, 1173-1182.
- Bass, B. (1990). Bass & Stodgill's handbook of leadership. New York: The Free Press.
- Bass, B. (1985). Leadership and performance beyond expectations. New York: The Free Press.
- Bennis, W., & Nanus, B. (1984). Leaders: The strategies for taking charge. New York: Harper & Row.
- Bhattacharya, R., Devinney, T., Pillutla, M. (1998). A formal model of trust based on outcomes. Academy of Management Review, *23*, 459-472.
- Butler, J. K. (1995). Behaviors, trust, and goal achievement in a win-win negotiating role play. Group & Organization Management, *20*, 486-501.
- Conger, J. (1992). Learning to lead: The art of transforming managers into leaders. San Francisco: Jossey-Bass.
- Cook, J., & Wall, T. (1980). New work attitude measures of trust, organizational commitment, and personal need fulfillment. Journal of Occupational Psychology, *53*, 39-52.
- Cummings, L., & Bromiley, P. (1996). The organizational trust inventory (OTI): Development and validation. In R. Kramer & T. Tyler (Eds.) Trust in organizations. Thousand Oaks, CA: Sage.
- Dirks, K. T. (1999). The effects of interpersonal trust on work group performance. Journal of Applied Psychology, *84*, 445-455.
- Dirks, K. T., & Ferrin, D. L. (in press). The role of trust in organizational settings. Organization Science.
- Fairholm, G. (1994). Leadership and the culture of trust. Westport, CT: Praeger.
- Georgopolous, D. B. (1986). Organizational structure, problem solving, and effectiveness. San Francisco: Jossey-Bass.
- Golembiewski, R., & McConkie, M. (1975). The centrality of interpersonal trust in group process. In C. Cooper (Ed.), Theories of group process. New York: Wiley.

Hackman, J. R. (Ed.) (1990). Groups that work (and those that don't). San Francisco: Jossey-Bass.

Hogan, R., Curphy, G., & Hogan, J. (1994). What we know about leadership: Effectiveness and personality. American Psychologist, *49*, 493-504.

House, R. (1977). A 1976 theory of charismatic leadership. In J. Hunt & L. Larson (Eds.) Leadership: The cutting edge. Carbondale, IL: Southern Illinois University Press.

James, L., Demaree, R., & Wolf, G. (1984). Estimating within group inter-rater reliability with and without response bias. Journal of Applied Psychology, *69*, 85-98.

Jehn, K., & Shah, P. (1997). Interpersonal relationships and task performance: An examination of mediating processes in friendship and acquaintance groups. Journal of Personality and Social Psychology, *72*, 775-790.

Jones, M. (1974). Regressing group on individual effectiveness. Organizational Behavior and Human Performance, *11*, 426-451.

Kirkpatrick, S., & Locke, E. (1996). Direct and indirect effects of three core charismatic leadership components on performance and attitudes. Journal of Applied Psychology, *81*, 36-51.

Kimmel, M., Pruitt, D., Magenau, J., Konar-Goldband, E., & Carnevale, P. (1980). Effects of trust, aspiration, and gender on negotiation tactics. Journal of Personality and Social Psychology, *38*, 9-22.

Klimoski, R. J., & Karol, B. L. (1976). The impact of trust on creative problem solving groups. Journal of Applied Psychology, *61*, 630-633.

Koorsgaard, M. A., Schweiger, D., & Sapienza, H. (1995). Building commitment, attachment, and trust in strategic decision-making teams: The role of procedural justice. Academy of Management Journal, *38*, 60-84.

Kouzes, J., & Posner, B. (1997). The leadership challenge: How to get extraordinary things done in organizations. San Francisco: Jossey-Bass.

Kramer, R. (1999). Trust and distrust in organizations: Emerging perspectives, enduring questions. Annual Review of Psychology, *50*, 569-598.

Larson, C., & LaFasto, F. (1989). Teamwork. Newbury Park, CA: Sage.

Likert, R. (1967). The human organization. New York: McGraw-Hill.

- Lindsley, D., Brass, D., & Thomas, J. (1995). Efficacy-performance spirals: A multi-level perspective. Academy of Management Review, 20, 645-678.
- Lord, R., & Maher, K. (1991). Leadership and information processing: Linking perceptions and performance. Boston: Unwin Hyman.
- Lowe, K., Kroeck, K. G., & Sivasubramaniam, N. (1996). Effectiveness correlates of transformational and transactional leadership: A meta-analytic review of the MLQ literature. Leadership Quarterly, 7, 385-425.
- Magner, N., Welker, R., & Johnson, G. (1996). The interactive effects of participation and outcome favorability on turnover intentions and evaluations of supervisors. Journal of Occupational and Organizational Psychology, 69, 135-143.
- Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. Academy of Management Review, 20, 709-734.
- McAllister, D. (1995). Affect- and cognition-based trust as foundations for interpersonal cooperation in organizations. Academy of Management Journal, 38, 24-59.
- McGrath, J. (1984). Groups: Interaction and performance. Englewood Cliffs, NJ: Prentice-Hall.
- McGregor, D. (1967). The professional manager. New York: McGraw-Hill.
- Meindl, J., Ehrlich, S., & Dukerich, J. (1985). The romance of leadership. Administrative Science Quarterly, 30, 78-102.
- Neter, J., Wasserman, W., & Kunter, M. (1990). Applied linear statistical models, (3rd edition). Homewood, IL: Irwin.
- Oldham, G. (1975). The impact of supervisory characteristics on goal acceptance. Academy of Management Journal, 18, 461-475.
- O'Reilly, C. A., & Roberts, K. H. (1974). Information filtration in organizations: Three experiments. Organizational Behavior and Human Performance, 11, 253-265.
- Peterson, D., & Hicks, M. D. (1996). Leader as coach. Minneapolis, MN: Personnel Decisions International.

Podsakoff, P., MacKenzie, S., Moorman, R., & Fetter, R. (1990). Transformational leader behaviors and their effects on followers' trust in leader, satisfaction, and organizational citizenship behaviors. Leadership Quarterly, 1, 107-142.

Pollock, T. (1998). Risk, reputation, and interdependence in the market for initial public offerings: Embedded networks and the construction of organization value. Unpublished doctoral dissertation. University of Illinois, Champaign, Illinois.

Rich, G. (1997). The sales manager as a role model: Effects of trust, job satisfaction, and performance of salespeople. Journal of Academy of Marketing Science, 25, 319-328.

Robinson, S. (1996). Trust and the breach of the psychological contract. Administrative Science Quarterly, 41, 574-599.

Rousseau, D. (1985). Issues of level in organizational research: Multi-level and cross-level perspectives. In L. L. Cummings & B. Staw (Eds.) Research in organizational behavior, Greenwich, CT: JAI Press.

Rousseau, D., Sitkin, S., Burt, R., & Camerer, C. (1998). Not so different after all: A cross-discipline view of trust. Academy of Management Review, 23, 387-392.

Salancik, G. J., & Pfeffer, J. (1978). A social information processing approach to job attitudes and task design. Administrative Science Quarterly, 23, 224-253.

Shamir, B., Zakay, E., Breinen, E., & Popper, M. (1998). Correlates of charismatic leader behavior in military units: Subordinates attitudes, unit characteristics, and superiors' appraisals of leader performance. Academy of Management Journal, 41, 387-409.

Staw, B. (1975). Attribution of the 'causes' of performance: A general alternative interpretation of cross-sectional research on organizations. Organizational Behavior and Human Performance, 13, 414-432.

Waldman, D., & Yammarino, F. (1999). CEO charismatic leadership: Levels-of-management and levels-of-analysis effects. Academy of Management Review, 24, 266-285.

Yukl, G. (1998). Leadership in organizations. (4th ed.) Upper Saddle River, NJ: Prentice Hall.

Zand, D. (1997). The leadership triad: Knowledge, trust, and power. New York: Oxford University.

Zand, D. (1972). Trust and managerial problem solving. Administrative Science Quarterly, 17, 229-239.

Appendix

Measurement Scale for Trust in Leader

All responses were on 7-point Likert scales (1 = strongly disagree to 7 = strongly agree)

Trust in leader ($\alpha = .96$)

Most team members trust and respect the coach. [.93]

I can talk freely to the coach about difficulties I am having on the team and know that he will want to listen. [.84]

If I shared my problems with the coach, I know he would respond constructively and caringly. [.90]

I have a sharing relationship with the coach. I can freely share my ideas, feelings, and hopes with him. [.86]

I would feel a sense of loss if the coach left to take a job elsewhere. [.96]

The coach approaches his job with professionalism and dedication. [.87]

Given the coach's past performance, I see no reason to doubt his competence. [.87]

I can rely on the coach not to make my job (as a player) more difficult by poor coaching. [.88]

Other players and coaches consider the head coach to be trustworthy. [.94]

Note: Instructions specified head coach as referent. Factor loading for items shown in brackets.

Footnotes

1. The meaningful role of trust in transformational leadership is recognized by the conceptualization of the charismatic component (Bass, 1985) and its measurement (at least three of the nineteen items in the charismatic component of *the Multifactor Leadership Questionnaire* are related to trust-building). To the extent that the charismatic component does involve some trust-building behaviors, there exists indirect evidence of a relationship between trust in leadership and leader effectiveness or unit performance (see results of meta-analysis by Lowe, Kroeck, & Sivasubramaniam, 1996). Nevertheless, the qualities or behaviors of leaders are distinct from the outcomes (e.g., trust, motivation, identification) they produce. Several recent studies have provided evidence that it is useful to distinguish between behaviors of transformational or charismatic leaders and the level of trust that followers have in them (Kirpatrick & Locke, 1996; Podsakoff et al., 1990; Shamir et al., 1998). Hence, the present study provides evidence relevant to, but not directly overlapping with, existing research on transformational leadership.
2. Following the social information processing perspective (Salancik & Pfeffer, 1978), the process is likely to involve numerous social processes (discussion among team members) and symbols (e.g., ceremonies, newspaper articles), particularly in a team context that would foster a common perception on the team.
3. As pointed out by a reviewer, although all teams face perceived uncertainty, vulnerability, and interdependence there is likely to be some variation between teams. Although highly restricted, this variation may impact the relationship between trust and team performance.
4. The instructions asked that assistant coaches distribute surveys to players, collect the completed surveys, and mail them back to me. Players were given security envelopes in which they could seal the completed surveys. This was intended to remove the potential for inflating responses due to the fear of the coaching staff or other players seeing their answers. This strategy was seen as more desirable than asking players to mail back the surveys themselves. The latter was expected to result in a low response rate.
5. Specifically, this meant they were multiplied by values of 1, .66, and .33 for MVP, first team, and second respectively. As an illustrative example, assume that a particular conference chose one MVP, five players for the first team, and seven players for the second team. If a participating team did not have the

conference MVP, but had one player elected to the first team and two to the second team, its talent score would be computed by the following formula: $1.0*(0/5) + .66*(1/5) + .33*(2/7) = .23$.

Table 1.

Means, Standard Deviations, and Correlations

Variable	M	SD	1	2	3	4	5	6	7	8	9
1. Team performance _{Future}	.59	.23	-								
2. Trust _{Leader}	51.01	6.56	.57**	-							
3. Team performance _{Prior}	.51	.21	.62**	.60**	-						
4. Trust _{Teammates}	48.77	5.40	.37*	.64**	.23	-					
5. Team Talent	.15	.11	.72**	.27	.54**	.24	-				
6. Coach record	.45	.18	.39*	.18	.44**	-.06	.26	-			
7. Experience	305.27	218.42	.19	-.11	-.08	-.14	.06	.71**	-		
8. Pre-conference	.67	.28	.41*	.10	.25	.13	.45*	-.05	.21	-	
9. Player tenure	2.14	.42	.18	-.04	.08	.04	-.02	.36*	.50**	.16	-

*p < .05. **p < .01; N = 30

Table 2.

Summary of Regression Analyses for Examining Effect of Trust on Team Performance

Equation	Dependent Variable	Independent Variable	β	t	R^2_{adj}
1	Trust _{Leader}	Player tenure	-.08	-.54	.32
		Team performance _{Prior}	.61	3.97**	
2	Team performance _{Future}	Player tenure	.11	.78	.59
		Trust _{Teammates}	.18	1.41	
		Team Talent	.41	2.49*	
		Experience	.34	1.46	
		Coach record	-.22	-.78	
		Pre-conference	.14	.96	
		Team performance _{Prior}	.44	2.14*	
3	Team performance _{Future}	Player tenure	.18	1.32	.66
		Trust _{Teammates}	-.07	-.45	
		Team Talent	.48	3.16**	
		Experience	.33	1.56	
		Coach record	-.25	-1.00	
		Pre-conference	.15	1.16	
		Trust _{Leader}	.44	2.35*	

Notes: N = 30; $\Delta R^2 = .07$ in step 3, $p < .05$

* $p < .05$. ** $p < .01$