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Trust in Leadership: Meta-Analytic Findings and Implications for Research and Practice

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Abstract

The authors examine the findings and implications of the research on trust in leadership that has been conducted during the past four decades. First, the study provides estimates of the primary relationships between trust in leadership and key outcomes, antecedents, and correlates ($k = 106$). Second, the study explores how specifying the construct with alternative leadership referents (direct leaders vs. organizational leadership) and definitions (types of trust) results in systematically different relationships between trust in leadership and outcomes and antecedents. Direct leaders (e.g., supervisors) appear to be a particularly important referent of trust. Last, a theoretical framework is offered to provide parsimony to the expansive literature and to clarify the different perspectives on the construct of trust in leadership and its operation.

Trust in Leadership: Meta-Analytic Findings and Implications for Research and Practice

The significance of trust in leadership has been recognized by researchers for at least four decades with early exploration in books (e.g., Argyris, 1962; Likert, 1967; McGregor, 1967) and empirical articles (e.g., Mellinger, 1959; Read, 1962). Over this period of time, the trust that individuals have in their leader(s) has been an important concept in applied psychology and related disciplines. For instance, it is a key concept in several leadership theories: Transformational and charismatic leaders build trust in their followers (Kirkpatrick & Locke, 1996; Podsakoff, MacKenzie, Moorman, & Fetter, 1990); employees' perceptions that leaders have attributes that promote trust may be important for leader effectiveness (Bass, 1990; Hogan, Curphy, & Hogan, 1994); and trust is an element of leader-member exchange theory (Schriesheim, Castro, & Cogliser, 1999) and the consideration dimension of leader behavior (Fleishman & Harris, 1962). The importance of trust in leadership has also been emphasized in numerous other literatures across multiple disciplines. Published articles including the concept can be found in the literatures on 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. More recently, trust has emerged as a research theme in its own right. The rise in interest is evidenced by special issues of journals devoted to the topic of trust (Kramer & Isen, 1994; Rousseau, Sitkin, Burt, & Camerer, 1998) and edited books (Gambetta, 1988; Kramer & Tyler, 1996; Lane & Bachmann, 1998), as well as a growing number of individual articles. As Kramer noted, trust is moving from "bit player to center stage in contemporary organizational theory and research (1999: 594)."

Researchers have clearly demonstrated significant and growing interest in the concept, but several key issues have been overlooked. First, there has been no attempt to cumulate and assess the empirical research on trust in leadership that is spread across several decades and numerous literatures. As a result, it is unclear what empirical research has uncovered about the relationships between trust and other concepts. For instance, scholarly views on trust have ranged from it being a variable of very substantial

importance (Golembiewski & McConkie, 1975; Kramer, 1999), to one of little if any impact (Williamson, 1993). Nor has there been a summary of how trust is related to potential antecedents. In this study, we report a meta-analysis that quantitatively summarizes and evaluates the primary relationships between trust in leadership and 23 constructs. Although many constructs in applied psychology have benefited from a meta-analytic review, no such synthesis has been applied to the literature on trust in leadership.

A second issue is that a diversity in construct focus has arisen in the literature. In examining the relationship of trust with other constructs, researchers have specified the construct with different leadership referents and with a focus on different operational definitions of trust. At present, it is unclear whether specifying the construct in alternative ways results in different findings, and if so, how. For example, some scholars have focused on trust in a direct leader (e.g., supervisor), while others have focused on trust in organizational leadership (e.g., senior leadership). We will suggest that trust in these two different leadership referents will show systematically different relationships with antecedents and work outcomes (i.e., the primary relationships will differ). This issue is important not only theoretically, but also practically, as it may provide guidance on whether organizations should focus resources on establishing trust in its supervisors or its senior leadership. We also explore whether choosing to focus on one particular operational definition of trust versus another may result in different findings.

Lastly, because scholars from different literatures have used and adapted the concept, different theoretical perspectives have arisen. We offer a tentative framework describing two distinct theoretical perspectives and use it to address the issues described above. Specifically, the framework is used to establish the theoretical linkages between trust in leadership and other constructs, and to help specify why trust in leadership might show different relationships with other constructs based on the referent of leadership or the definition of trust. Although data are not yet available to conduct comprehensive tests of the theoretical framework via meta-analysis, the framework offers parsimony to the expansive literature on trust in leadership, and provides theoretical leverage for addressing the above issues and for conducting future research.

In sum, this study attempts to quantitatively review the primary relationships between trust in

leadership and other constructs, explore the implications of specifying the construct in different ways, and provide theoretical parsimony to the literature base. These issues are important to address from a theoretical standpoint because they limit the ability of scholars to draw on, and advance, existing research, on trust in leadership. The issues are also relevant for practitioners, because trust in leadership is a foundation of several practices, such as leadership development programs (e.g., Peterson & Hicks, 1996).

Concept Definition and Theoretical Framework

Rousseau et al. (1998: 395) proposed the following definition of trust as it has been conceptualized and studied across numerous disciplines: "a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another." We utilize this conceptual definition in our analysis, recognizing that researchers have operationalized it in different ways and for different types of leadership referents (e.g., ranging from direct leader to organizational leadership). Following Yukl and Van Fleet (1992) we do not distinguish between "leaders" and "managers" because the terms are often used interchangeably in the literature.

Scholars have offered different explanations about the processes through which trust forms, the processes through which trust affects workplace outcomes, and the nature of the construct itself. To address this theoretical diversity, we will distinguish between two qualitatively different theoretical perspectives of trust in leadership that appear in the literature, and use these as a framework for the article.

One perspective focuses on the nature of the leader-follower relationship (or more precisely, how the follower understands the nature of the relationship). For instance, some researchers describe trust in leadership as operating according to a social exchange process (e.g., Konovsky & Pugh, 1994; Whitener, Brodt, Korsgaard, & Werner, 1998). Followers see the relationship with their leader as beyond the standard economic contract such that the parties operate on the basis of trust, goodwill, and the perception of mutual obligations (Blau, 1964). The exchange denotes a high-quality relationship, and issues of care and consideration in the relationship are central. Researchers have used this perspective in describing how trust in leader-follower relationships elicits citizenship behavior (Konovsky & Pugh, 1994), some

research on the operation of transformational leadership and trust (Pillai, Schriesheim, & Williams, 1999), and in literature on LMX relationships (e.g., Schriesheim et al., 1999). Given the emphasis on relational issues, we refer to this perspective as the *relationship-based* perspective.

A second perspective focuses on the perception of the leader's character and how it impacts a follower's vulnerability in a hierarchical relationship (e.g., Mayer, Davis, & Schoorman, 1995). According to this perspective, trust-related concerns about a leader's character are important because the leader may have authority to make decisions that have a significant impact on a follower and the follower's ability to achieve his or her goals (e.g., promotions, pay, work assignments, layoffs). This perspective implies that followers attempt to draw inferences about the leader's characteristics such as integrity, dependability, fairness, and ability, and that these inferences have consequences for work behavior and attitudes. Examples of research using this perspective include models of trust based on characteristics of the trustee (Mayer et al., 1995), research on perceptions of supervisor characteristics (e.g., Cunningham & MacGregor, 2000; Oldham, 1975) and research on some forms of leader behavior (Jones, James, & Bruni, 1975). We will refer to this perspective as the *character-based* perspective. In both of the two perspectives, trust is a belief or perception held by the follower, and is measured accordingly; it is not a property of the relationship or the leader per se.

We use these theoretical perspectives as a framework in the following ways: First, we summarize how the perspectives have been and can be used to explain bivariate relationships between trust in leadership and its antecedents and consequences. Second, we develop hypotheses about how the two different theories imply different bivariate relationships, based on the referent of trust, and the definition of trust used, and test those hypotheses via meta-analytic procedures (moderator analyses). Lastly, we discuss how the two perspectives may be used to direct future research.

Primary Relationships With Other Variables

This section provides a review and integration of the relationships between trust in leadership and other key constructs. Figure 1 illustrates the theoretical positioning of the constructs, including the unmeasured theoretical processes expected to mediate the relationships. We have classified variables as

potential antecedents, consequences, or correlates based on how researchers have treated them theoretically. We caution, however, that the causal connections are empirically tenuous at present because most studies used cross-sectional research designs. As will be discussed in a later section, this caution is particularly warranted with the variables labeled as antecedents. The framework and subsequent discussion only includes those variables for which sufficient data were available for the meta-analysis. In that sense, the following discussion and framework is not exhaustive of all variables that have been associated with trust.

Insert Figure 1 About Here

Relationships with Behavioral, Performance, and Attitudinal Outcomes

Clearly, one reason that scholars and practitioners are interested in trust is their belief that it has a significant impact on a variety of outcomes relevant to organizations. At present, however, there is variation in the opinions of scholars (e.g., see Golembiewski & McConkie, 1975; Kramer, 1999; Williamson, 1993). A narrative review of the consequences of trust in leaders and other referents was not able to draw conclusive findings for behavioral and performance variables, although it did find some consistent evidence of a relationship with attitudinal variables (Dirks & Ferrin, 2001). In short, existing research has not provided a clear picture. Consequently, one goal of the present meta-analysis is to develop insight, based on the sum of previous empirical research, regarding the relationships between trust in leadership and key outcomes. A second goal is to examine the effects of trust across different outcome variables to better understand where trust is likely to have its largest or smallest impacts.

Behavioral and performance outcomes. The two theoretical perspectives outlined earlier describe two different mechanisms by which trust might affect behavior and performance. The character-based perspective focuses on how perceptions of the leader's character impacts a follower's vulnerability in a hierarchical relationship. Specifically, because leaders have authority to make decisions that have a significant impact on the follower (e.g., promotions, pay, work assignments, layoffs), perceptions about the trustworthiness of the leader become important. Drawing on this idea, Mayer et al. (1995) provided a

model proposing that when followers believe their leaders have integrity, capability or benevolence, they will be more comfortable engaging in behaviors that put them at risk (e.g., sharing sensitive information). For example, Mayer and Gavin (1999) suggested that when employees believe their leader cannot be trusted (e.g., because the leader is perceived not to have integrity) they will divert energy toward "covering their back" which detracts from their work performance. In contrast, the relationship-based perspective is based on principles of social exchange and deals with employees' willingness to reciprocate care and consideration that a leader may express in a relationship. That is, individuals who feel that their leader has, or will, demonstrate care and consideration will reciprocate this sentiment in the form of desired behaviors. Konovsky and Pugh (1994) drew on this logic, suggesting that a social exchange relationship encourages individuals to spend more time on required tasks and be willing to go "above and beyond" their job role. Both theoretical perspectives suggest that trust may result in higher performance and OCBs -- but reach this end by distinct, and potentially complementary, routes.

Attitudes and intentions. Trust is also linked to a number of attitudinal outcomes, particularly organizational commitment and job satisfaction. Rich (1997) recognizes that managers are responsible for many duties that have a major effect on employees' job satisfaction, such as performance evaluations, guidance and assistance with job responsibilities, and training. Using the logic described in the prior section regarding the leader's character, individuals are likely to feel more safe, and more positive, about the manager making these decisions when they believe the leader is trustworthy. In contrast, having a low level of trust in a leader is likely to be psychologically distressing when the leader has power over important aspects of one's job, and this distress is likely to impact one's attitudes about the workplace. The implication of this idea is that trust in leadership should be associated with higher levels of job satisfaction, higher organizational commitment and lower intention of quitting. For instance, when individuals do not trust their leaders, they are more likely to consider quitting because they may be concerned about decisions that the leaders might make (due to perceptions of lack of integrity, fairness, honesty, or competence) and do not want to put themselves at risk to the leader.

Lastly, we expect trust to impact two additional variables that are important for effective

leadership: commitment to decisions made by or goals set by the leader, and belief in the accuracy of information provided the leader. Because trust involves beliefs about honesty, integrity, and the extent to which a leader will take advantage of the employee, it is likely to affect the extent to which individuals are willing to believe the accuracy of information they receive from that individual.¹ In addition, believing that a leader is not honest, does not have integrity, and may take advantage of a follower is likely to make one unwilling to commit to the goals set by a leader, for fear of putting oneself at risk.

Hypothesis 1a. Trust in leadership will be positively related to job performance, organizational citizenship behaviors, job satisfaction, organizational commitment, goal commitment, and belief in information, and negatively related to intention to quit.

Although prior research has posited a positive impact on the variables cited above, it has not explored the relative magnitude of the relationships. We suggest that the relationship will be greatest with those variables that are psychologically proximal to trust, such as work-related attitudes. Behavioral and performance outcomes are usually a function of numerous other contextual determinants and hence the relationships are likely to be smaller. We would, however, expect trust in leadership to have a stronger impact on OCBs than on job performance. Similar to arguments advanced by other researchers, OCBs are discretionary behaviors, are less constrained by abilities and work processes than job performance, and hence are likely to be more strongly affected by attitudinal variables such as trust (Organ & Ryan, 1995). For example, when one does not trust the leader, one is more likely to avoid "going the extra mile" than reduce performance of required tasks.

Hypothesis 1b. Trust in leader will have the largest correlations with job attitudes (job satisfaction, organizational commitment), the second largest with citizenship behaviors, and the smallest correlation with job performance.

Relationships With Leader Actions and Other Potential Antecedents

To date, there has been no comprehensive review of the evidence concerning potential antecedents of trust. To facilitate our review, we classified potential antecedent variables into three categories: leader actions and/or practices, attributes of the follower, and attributes of the leader-follower

relationship. These categories reflect different sources of effects.

Leader actions and practices. According to the two perspectives on trust, individuals observe leaders' actions and draw inferences about the nature of the relationship with the leader (relationship-based perspective) and/or the character of the leader (character-based perspective).

Among theories of leadership, trust has perhaps been most frequently cited in the literature on transformational leadership. According to several scholars, transformational leaders engage in actions that gain the trust of their followers, and which in turn result in desirable outcomes (e.g., Podsakoff et al., 1990). Pillai et al. (1999) suggest that transformational leaders may operate by establishing a social exchange relationship with followers. For instance, transformational leaders may build trust by demonstrating individualized concern and respect for followers (Jung & Avolio, 2000). In contrast, transactional leaders are said to focus more effort on ensuring that employees are rewarded fairly (contingent reward) and that followers recognize that they will fulfill the work contract. In sum, transformational leadership behaviors operate partially due to care and concern perceived in the relationship; transactional leaders seem to put less emphasis on the relationship, and more emphasis on ensuring that they are seen as fair, dependable, and having integrity (character-based issues).

Trust is also frequently associated with the perceived fairness of leadership actions. Specifically, employees' trust in their leaders will be impacted by the level of perceived fairness or justice in the organizational practices or decisions, because the practices are likely to be seen as a signal of the nature of the relationship with the leader and/or the character of the leader. Researchers describe three types of justice that are relevant: distributive justice, involving the allocation of outcomes; procedural justice, dealing with the processes that lead to decision outcomes; and interactional justice, the interpersonal treatment people receive as procedures are enacted. Some scholars (Konovsky & Pugh, 1994; Brockner & Seigel, 1996) have used the group value model to suggest that procedural justice is a source of trust because it demonstrates respect for the employee and a valuation of the relationship, while others might suggest that it could be interpreted as an indicator of the leader's tendency to be fair. In contrast, scholars have suggested that distributive justice does not signal anything about the exchange relationship, but

simply follows standard norms. One might propose that distributive justice does, however, signal the fairness and integrity of a leader and hence the character-based perspective would be relevant. Although these researchers did not discuss interactional justice specifically, we suggest that it would send a strong signal about the nature of the relationship (relationship-based perspective) because it involves the degree of respect with which the leader treats the follower.

Participative decision making (PDM) may send a message that the leader enacting the program has confidence in, and concern and respect for the subordinate; it may also impact followers' overall perceptions about the character of the leader (e.g., fairness). The literature on psychological contracts suggests that unmet expectations (a "breach;" e.g., pay raises or promotions promised but not given) will decrease trust in leaders (Robinson, 1996). Unmet expectations are likely to impact followers' trust by affecting the extent to which the leader is perceived to be dependable, honest, and/or have integrity. Lastly, perceived organizational support involves an exchange relationship between individuals and the organization, where the individuals believe that the organization cares about their well-being. In sum, PDM may operate via either the relationship-based or character-based perspective, unmet expectations are likely to operate via the character-based perspective, and perceived organizational support is likely to operate via the relationship-based perspective.

In addition to the question of whether these variables influence trust, we are also interested in the magnitude of the effects. At present, research has not explored which practices have the strongest effect on trust. It is possible, for example, that some practices have stronger relationships with trust than others due to the different processes involved in the effect (relationship-based, character-based). Lastly, it is unclear how the magnitudes of leadership practices compare to other potential determinants such as the ones discussed below.

Attributes of the follower. Rotter (1967) and others have recognized that individuals vary in the extent to which they trust others in general. The trait is often referred to as propensity to trust, and is sometimes hypothesized to influence individuals' trust in specific individuals with whom they have a personal relationship. For instance, this propensity might affect how individuals initially perceive and

interact with their leaders, which might impact the ultimate level of trust in the relationship. Alternatively, this propensity might have little or no effect on trust in specific partners due to the unique experiences in each relationship that overwhelm the effects of the trait. According to McKnight, Cummings, and Chervany (1998) researchers have experienced "mixed results" when using dispositional trust to predict interpersonal trust.

Attributes of the relationship. The length of a relationship between individuals may impact the level of trust between them. For example, the level of trust may be greater in a relationship of long duration than a relationship of short duration due to the level of knowledge and familiarity acquired. Lewicki and Bunker (1996) suggest that deeper levels of trust "develop over time, largely as a function of the parties having a history of interaction." Length of a relationship is one proxy for the extent of interaction. As a counterpoint, an individual may over time recognize that trust in a leader is not warranted. In sum, it is unclear whether length in relationship will be related to trust in leadership.

Hypothesis 2. Trust in leadership will be positively related to transformational leadership, perceived organizational support, interactional justice, transactional leadership, procedural justice, participative decision making, distributive justice, propensity to trust, and length of relationship, and negatively related to unmet expectations.

Correlates of Trust in Leadership

We have classified satisfaction with leader and leader-member exchange (LMX) as correlates of trust in leadership. Trust in leadership and satisfaction with leader are conceptually similar because they both reflect an attitude or assessment that individuals hold about the same referent -- the leader. Given the similarity, we expect the two variables to co-vary at a high level with no distinct direction of causality.

The relationship between trust and LMX is particularly complex. Some research has conceptually and/or empirically separated leader-member exchange from trust in leadership (e.g., Cunningham & MacGregor, 2000; Lagace, 1987); other studies have treated it as a sub-dimension of LMX (for a review see Schriesheim et al., 1999). Brower, Schoorman, and Tan (2000) suggest that LMX comprises two trust constructs that do not necessarily have to be "balanced" or reciprocated: the leader's trust in subordinate and

the subordinate's trust in leader. Given the complex relationship that remains a point of debate, we treat trust in leadership as a correlate of follower ratings of the LMX construct and meta-analyze data from those studies that treat it as a construct distinct from LMX.

Hypothesis 3. Trust in leadership will be positively related to satisfaction with leader and LMX.

Construct Issues: Different Referents and Definitions of Trust in Leadership

Past research has demonstrated a diversity in construct focus. In this section, we examine two issues regarding the construct of trust in leadership. As suggested by Clark and Payne (1997), the construct of trust has two independent facets: the "referent" of the trust in leadership and the "definition" of trust in leadership. In other words, in responding to a survey, the follower is asked to assess a particular referent on a particular dimension. We use the theoretical framework described earlier to examine how a focus on a particular referent or a particular definition of trust impacts the primary relationships between trust and other variables. We will only discuss hypotheses for those relationships for which we have both sufficient data and a theoretical rationale.

Referent of Trust

Most studies examining trust in leadership have focused on one of two different referents: the direct leader (e.g., supervisor, work group leader) or organizational leadership (e.g., executive leadership team; collective set of leaders). Research from political and organizational psychology suggests that individuals do distinguish between individuals and collectives or systems of authority in making assessments (e.g., Colquitt, Conlon, Wesson, Porter, & Ng, 2001; Lind & Tyler, 1988). To date, however, there has been little research directed at understanding the distinction that individuals make between different leadership referents of trust, and the implications of these distinctions.

According to social exchange principles, the relationship-based perspective implies that followers will reciprocate towards the other party in the relationship. For example, trust in direct leader should be associated with reciprocation primarily aimed at that referent, as opposed to organizational leadership. Research reviewed by Bass (1990: 394-395) indicates that direct leaders tend to perform supervisory activities such as managing performance and day-to-day activities on the job. In contrast, organizational

leaders perform more strategic functions such as the allocation of resources to departments, human resource practices of the firm, the communication goals of the organization, etc. Given the distinction in the roles of the different leadership referents, reciprocating trust in a direct leader would tend to involve job-related outcomes such as increasing job performance, engaging in citizenship behaviors, and having higher levels of job satisfaction. For instance, individuals might give extra time to fulfill supervisor requests, or may engage in helping behavior such as staying late to help a supervisor or co-worker due to a social exchange process involving a supervisor (Settoon, Bennett, & Liden, 1996). In contrast, trust in organizational leadership may involve reciprocating to that referent in the form of organizational-level commodities such as organizational commitment. Lastly, we suggest that for intention to quit, both referents will be of concern to the individual, because this decision may involve concerns about job-related factors and organizational factors.

Hypothesis 4. Trust in direct leaders will have a stronger relationship with job satisfaction, altruism, and job performance than trust in organizational leadership; trust in organizational leadership will have a stronger relationship with organizational commitment.

The relationship between trust and some antecedents may also vary based on the referent. Leadership actions are seen as reflecting leadership characteristics (character-based theory), or taken as signals about the nature of the relationship (relationship-based theory). At present, there is limited research that has addressed how subordinates attribute responsibility for leadership actions and decisions. For some actions, the referent should be clear to the subordinate. Interactional fairness behaviors would be difficult to attribute to any party other than direct leader; that is, interpersonal treatment is likely to be perceived to be under the control of that individual (rather than due to organizational policies). Likewise, the relationship-based theory would suggest that perceived organizational support will be related to trust in organizational leadership, as individuals reciprocate toward an organization-level referent (Settoon et al., 1996). For other actions, the appropriate referent may be less clear because the practice may often be developed on a system-wide basis by organizational leadership but ultimately implemented or enacted by direct leaders. Procedural fairness and PDM often fall within this domain (e.g., Bobocel & Holmvall, in

press). Although trust in both types of leaders will be significantly affected, we suggest that, on average, subordinates will over-attribute actions to direct leaders implementing the procedures. Attribution theory provides two bases for this prediction. First, the fundamental attribution error (the bias toward attributing behavior to person rather than situation) implies that subordinates will tend to attribute a direct leader's implementation of the policy to his or her personal character. Second, procedures tend to cause the direct leader to behave in a manner that is consistent over time and across subordinates. Attribution theory principles of high consistency (similar treatment by leader over time) and low distinctiveness (similar treatment across employees) imply that individuals will attribute the actions to the character of the direct leader. Plus, in many cases, these attributions may be veridical (i.e., the direct leader in fact initiated the practices without guidance from organizational leadership).

Hypothesis 5. Interactional justice, procedural justice, and PDM will have a stronger relationship with trust in direct leaders than with trust in organizational leadership. Perceived organizational support will have a stronger relationship with trust in organizational leadership.

Definition of Trust

Although most definitions of trust seem to have a common conceptual core (Rousseau et al., 1998), individual researchers have utilized different operational definitions of trust, which has resulted in the measurement of potentially different "definitions" of trust. These potential differences have been recognized by scholars suggesting that trust comprises multiple dimensions (e.g., Clark & Payne, 1997; Cook & Wall, 1980; McAllister, 1995).

McAllister (1995) suggests that interpersonal trust can be categorized into two different dimensions: affective and cognitive. Cognitive forms of trust reflect issues such as the reliability, integrity, honesty, and/or fairness of a referent. Affective forms of trust reflect a special relationship with the referent that may cause the referent to demonstrate concern about one's welfare. Other definitions have implicitly combined these two dimensions into an overall measure of trust -- which we consider to be a combination of affective and cognitive forms -- or have implicitly or explicitly focused on one of them. Our analysis utilizes this framework (cognitive, affective, overall) for recognizing potential

distinctions between definitions because it captures existing differences between definitions in a parsimonious manner.²

It is unclear whether these distinctions provide leverage for understanding how trust is created and how it operates. On one hand, distinctions between the definitions might not be meaningful, because the definitions may all tap the same construct. On the other hand, the measures may be tapping somewhat different aspects of trust, each of which has a potentially unique relationship with other constructs. To date, research has provided almost no evidence on the implications of using alternative definitions.

We suggest that alternative operational definitions of trust result in relationships of different magnitude with other variables because they are associated with different theoretical processes (relationship-based or character-based theory). Specifically, the character-based perspective seems to be logically associated with cognitive definitions of trust, the relationship-based perspective is logically associated with affective definitions, and both perspectives are likely to be relevant to some degree for overall definitions of trust. For example, cognitive items such as "I believe management has high integrity" or "[My leader] is not always honest and truthful" (Robinson, 1996) capture perceptions about the leader's character that would create concerns about being vulnerable to him or her. In contrast, affective items such as "I would have to say that we have both made considerable emotional investments in our working relationships" and "If I shared my problems with [my leader] I know he would respond constructively and caringly" (McAllister, 1995) are likely to be indicators of a relationship that will operate beyond the standard economic contract and which involves the exchange of socio-emotional benefits. The implications of these differences are discussed in the following two paragraphs. In the meta-analysis, we will analyze the different relationships related to overall versus cognitive trust. We will focus on these two types because we found that nearly all of the studies included in the meta-analysis used one of these two; there is presently insufficient data to directly examine affective trust.

We begin with differential relationships with outcomes. The assumption that cognitive operationalizations are primarily associated with and operate via the character-based theory, affective definitions are primarily associated with and operate via the relationship-based theory, and "overall"

definitions operate via both mechanisms (albeit to a lesser degree than either "pure" form would) provides the basis for making predictions about different relationships between outcome variables and alternative operationalizations of trust. We draw on our earlier theorizing for the predictions. As suggested earlier, one might argue that citizenship behaviors and job performance may be a function of social exchange (Konovsky & Pugh, 1994), and perhaps also concerns over vulnerability associated with character-based perspective (Mayer & Gavin, 1999). In addition, the correlate LMX involves an evaluation of the relationship and is likely to involve affective elements. Consequently, we would expect these variables to have larger relationships with overall definitions of trust (involving the operation of both perspectives) than with cognitive trust alone. In contrast, job attitudes may be largely affected by concerns about dependability, honesty, fairness, and competence of the leader (as opposed to reciprocation of care). As discussed earlier, concerns about the leader may have a large impact on how individuals experience their workplace, as is the case for workplace attitudes such as job satisfaction.

Hypothesis 6. Citizenship behaviors, job performance, and LMX will have a stronger relationship with overall trust than cognitive trust; job satisfaction, organizational commitment, and intention to quit will have a stronger relationship with cognitive trust.

Regarding the antecedents, an individual may perceive some leadership actions as reflecting or signaling the leader's character and intentions, and/or perceive other actions as reflecting or signaling the type of relationship they have with the leader. Following our earlier theorizing, although distributive justice likely does not signal the nature of the relationship, it may signal the tendency of a leader to be generally fair and act with integrity. In contrast, interactional justice may signal respect and caring in the relationship. The relationship for procedural justice is unclear: according to the group value model, procedural fairness demonstrates respect for the employee and a valuation of the relationship (Brockner & Seigel, 1996); procedural justice may also, however, signal that the leader is generally fair and acts with integrity as a matter of principle.

Hypothesis 7. Distributive justice will have a stronger relationship with cognitive trust than overall trust; interactional justice will have a stronger relationship with overall trust.

Methodology

Identification of Studies

We used several procedures to ensure that we had included existing studies. First, we searched several electronic indexes using the keyword "trust:" PsycINFO (1967-2000), SocioFile (1974-2000), ABI/Inform (1985-2000), and Dissertation Abstracts (1861-1999). The search identified over 15,500 studies that were reviewed for consideration (there was some redundancy between databases). Second, we examined the reference sections of books and articles that provided a narrative review of the trust literature (e.g., Dirks & Ferrin, 2001; Kramer, 1999; McCauley & Kuhnert, 1992) or other literatures that might include trust. Third, we manually searched for studies in the following journals from 1980 to the present: Academy of Management Journal, Administrative Science Quarterly, Group and Organization Management, Journal of Applied Psychology, Journal of Management, Journal of Occupational and Organizational Psychology, Journal of Organizational Behavior, Journal of Personality and Social Psychology, Leadership Quarterly, Organizational Behavior and Human Decision Processes, and Personnel Psychology. Fourth, we gathered unpublished research by contacting approximately 90 researchers who were considered likely to have relevant data. Unpublished studies were included to minimize publication bias (Rosenthal, 1979).

A number of initial criteria were used to determine whether a study was to be included in the meta-analyses. The study had to include data on a construct specifically termed "trust" that we deemed to be used in a manner consistent with Rousseau et al.'s (1998) cross-disciplinary definition (potential differences among operationalizations will be examined using the moderator analysis). We did not include studies that operationalized trust as a behavior, because other scholars have noted that the definition of trust as a behavior is problematic (e.g., see Mayer et al., 1995; Rousseau et al., 1998). The referent of trust had to be a leader or leadership group; we did not examine individuals' trust in peers or subordinates. Studies had to report the minimum statistics necessary for conducting the meta-analyses, such as zero-order correlation (partial correlations are not appropriate) or equivalent, and the sample size. When such data were not reported we attempted to contact the authors and obtain it in cases where

feasible. Lastly, the analysis was at the individual level; data at other levels of analysis were not included. To make the analysis more tractable and the estimates more stable we only conducted an analysis for variables for which there were at least five independent samples for the primary analysis.

Coding

Effect sizes. Most studies reported effect size data in terms of a Pearson correlation coefficient, r . Studies that reported other metrics (e.g., F , d) were converted to r by using the appropriate formulas. In order to preserve the independence of samples, for each relationship studied only one effect size was included from each sample. When a study reported data for multiple, independent samples, those samples were included separately in the analysis (Hunter & Schmidt, 1990).

Variables. Consistent with most recent empirical research, we only used data collected with non-self-report measures of job performance (e.g., rating by supervisor, or objective measures such as sales volume) and organizational citizenship behaviors. The use of non-self-report measures should prevent effect size inflation due to common source variance.

For job satisfaction and transformational leadership, some studies reported the data as a global variable while others reported it as a facet variable. Consistent with other meta-analyses, (e.g., Organ & Ryan, 1995), when studies used facet variables, we applied the appropriate formulas (Hunter & Schmidt, 1990) to compute a single effect size. For example, if a study reported the effect sizes for transformational leadership components behaviors, we used the formula $\sum r_{xy} / \sqrt{(n + n(n-1)r_{yy})}$ to combine the data into a single correlation. The Spearman-Brown formula was then used to compute the reliability by using the reliability estimates of the components.

Referents and definition of trust. The studies were coded for the two moderator variables: referent and definition. Referent was coded into two categories: "direct leader" (e.g., supervisor, work group leader) and "organizational leadership" (e.g., executive leadership; collective set of leaders). To determine which category the study fit, we examined the items used in each study to measure trust.

Definition was coded into four categories: affective trust, cognitive trust, willingness to be vulnerable, and overall trust. The items in each scale were examined and coded according to the

definitions reported in the Appendix. A number of studies used an existing measure, without reporting the items; in those cases we referred to the original source. To be coded as one of the specific definitions (affective, cognitive, willingness) at least 75% of the items in the scale had to represent a single dimension. If less than 75% of items in a scale represented a single dimension, the scale was classified as "overall trust." Hence, "overall trust" scales were frequently a composite. We chose 75% as the cutoff, as it represented the midpoint between an exact combination of two dimensions (50%) and a pure set of items from a single dimension (100%). We wanted to set the cutoff value high enough that a measure could be considered to represent a single definition of trust, without making the standard unreasonably difficult to attain. Clearly, researchers applying a different set of principles might set the cutoff level at a somewhat different value.

Both authors coded the statistics (sample size, effect size, reliability, etc.) and moderator variables for each study included in the analysis. During the first round of coding, inter-rater agreement on the referent variable was .93 (kappa = .85) and on the definition variable it was .72 (kappa = .41). The decision rules for "definition" were revised to be more precise and the studies were subsequently re-coded. During the second round of coding of the definition variable, agreement was .97 (kappa = .95). Existing cases of disagreement were resolved by discussion.

Meta-Analytic Procedures

Computations for the overall meta-analysis and subsequent analyses were performed using Johnson's (1993) DSTAT computer program, which applies the Hedges and Olkin (1985) approach. We computed the sample-size-weighted mean of each set of correlations and the corresponding confidence intervals. Following the recommendations of Hunter and Schmidt (1990) and Hedges and Olkin (1985), we also calculated the estimate of the true correlation (ρ). To calculate an estimate of ρ for each analysis, we corrected each effect size for attenuation due to unreliability in trust and in the other variable. In the infrequent cases where reliability statistics were not reported by a study, we followed the common practice of substituting the mean reliability of the sample of studies.

In addition to estimates of overall correlation, we calculated a homogeneity statistic, Q , for each

analysis. A significant Q (which has a chi-square distribution) indicates that the effect sizes are not homogeneous. We conducted categorical moderator analyses, examining whether referent of trust and operational definition accounted for heterogeneity (i.e., whether the primary relationships differ based on these categories). If a categorical moderator fully fits the data, the between class effect (Q_b) will be significant whereas the within class effect (Q_w) will be non-significant.

Results

After applying the criteria for inclusion described above, the analysis included a total of 106 independent samples (k) with 27,103 individuals (N). Studies included in the analysis are marked with an asterisk in the References section. Many of the samples included data for more than one relationship.

Primary Relationships with Hypothesized Outcomes and Correlates

Trust in leadership appears to have a significant relationship with each of the outcomes, as indicated by uncorrected correlations whose 95% confidence intervals did not include zero (see Table 1). For work behaviors and outcomes, trust had a relationship with each of the types of OCB: altruism ($r = .19$), civic virtue ($r = .11$), conscientiousness ($r = .22$), courtesy ($r = .22$), and sportsmanship ($r = .20$). Trust had a relatively small but significant relationship with job performance ($r = .16$).

 Insert Table 1 About Here

Trust in leadership demonstrated a substantial relationship with attitudinal variables. It had the strongest relationships with job satisfaction ($r = .51$) and organizational commitment ($r = .49$). Trust also showed sizeable relationships with turnover intentions ($r = -.40$), belief in information provided by the leader ($r = .35$), and commitment to decisions ($r = .24$). Lastly, trust was highly related to the correlates, satisfaction with leader ($r = .73$) and LMX ($r = .69$).

An examination of the correlations across variables and the corresponding confidence intervals provides insight into the relative magnitude of the relationship of trust with different outcomes (H1b). As predicted, the data clearly indicate that trust had the largest relationships with job satisfaction and organizational commitment. Also as expected, the mean correlations with OCB - altruism, -

conscientiousness, -courtesy, and -sportsmanship all slightly exceed the mean correlation with job performance. Unexpectedly, the correlation between trust and OCB – civic virtue is lower than the correlation with job performance. The 95% confidence interval of the correlation for job performance overlaps slightly with most of the confidence intervals of the OCB variables, but the point estimate does not fall within the latter.

The chi-square test showed significant ($p < .05$) heterogeneity in the correlations for each of the dependent variables except for belief in information and commitment to decisions. The significant statistic indicates that moderating variables are likely to be operative.

Primary Relationships with Hypothesized Antecedents

Nearly all of the variables had statistically significant relationships with trust (see Table 2). Transformational leadership had the largest relationship ($r = .72$), followed by perceived organizational support ($r = .69$). Next in magnitude, interactional justice and procedural justice had relationships of similar magnitude ($r = .65, .61$), with transactional leadership and distributive justice having significantly smaller relationships ($r = .59$ and $.50$). PDM had a relatively large relationship ($r = .46$), as did unmet expectations ($r = -.40$). Propensity to trust had a small significant relationship ($r = .16$). Length of relationship had no appreciable relationship ($r = -.01$). The relative magnitude of the correlations demonstrates substantial variation in the impact of the variables. Most of the confidence intervals do not overlap, indicating that the correlations are significantly different from each other.

The chi-square test showed significant ($p < .05$) heterogeneity in the correlations for each of the antecedent variables except for propensity to trust and length of relationship. Again, the significant heterogeneity indicates that moderating variables are likely to be operative.

 Insert Table 2 About Here

Moderator Analysis for Referent of Trust

The relationships for which the sample sizes were sufficient to permit a moderator analysis by referent are reported in Table 3. The between-class chi-square test indicates that referent operates as a

moderator of the relationship between trust and several outcomes, namely job performance, altruism (OCB), job satisfaction, and organizational commitment. As predicted, the relationship between trust and job performance (.17 vs. .00), altruism (.22 vs. .07), and job satisfaction (.55 vs. .48) was significantly higher when the referent was a direct leader as opposed to organizational leadership. Also as predicted, the relationship between trust and organizational commitment was higher when the referent was organizational leadership, as opposed to a direct leader (.57 vs. .44). As expected, the effect was not significant for turnover intentions.

Referent also moderated the relationship between several antecedents and trust. Interactional justice (.77 vs. .43), procedural justice (.66 vs. .53), and PDM (.59 vs. .23) all demonstrated a larger relationship with trust in direct leaders than trust in organizational leadership. As expected, perceived organizational support demonstrated a larger relationship with trust in organizational leadership (.75 vs. .56). Referent did not operate as a moderator of the relationship with distributive justice.

 Insert Table 3 About Here

Moderator Analysis for Definition of Trust

The relationships for which the sample sizes were sufficient to permit a moderator analysis for definition are reported in Table 4. Ninety-four percent of the studies were categorized as using cognitive trust or overall trust. The few studies that used affective trust were dispersed across relationships, resulting in an insufficient number of studies in any one relationship to conduct analyses.

 Insert Table 4 About Here

The relationship between trust and several outcomes and correlates does differ on the basis of the operational definition used. Several attitudinal and behavioral outcomes have a significantly larger relationship with cognitive trust when compared to overall trust: intent to quit (-.45 vs. -.35), organizational commitment (.54 vs. .46), and job satisfaction (.58 vs. .51). In contrast, overall trust had a larger relationship with civic virtue (.12 vs. .01) and performance (.18 vs. .11). The same was true for the

correlate, LMX (.76 vs. .59). Counter to expectations, there was no significant difference in the relationship of trust with altruism, based on definition.

For antecedents, procedural justice had a significantly larger relationship with cognitive trust when compared to overall trust (.68 vs. .54). There was no significant difference in the relationships of trust with distributive justice or interactional justice.

For all variables, with the exception of altruism, the moderators were not significantly correlated, thus suggesting that they are somewhat independent. Because the moderators were correlated for altruism, it is difficult to determine whether an observed effect (or lack of effect) is due to one moderator or the other. Readers should therefore use caution in drawing conclusions about the effect of the moderators on the trust - altruism relationship.

Exploration of Heterogeneity Due to Individual Studies

In addition to exploring whether heterogeneity can be accounted for by moderator variables, some researchers recommend exploring whether heterogeneity may be due to an effect size from an individual study (or small set of studies). Following the procedure described by Hedges (1987: 449), for each relationship with a significant homogeneity statistic, we withheld the effect size that yielded the largest reduction in the statistic. We repeated this procedure until either a maximum of 20% of studies were withheld or homogeneity was achieved. If homogeneity can be achieved by withholding 20% or fewer effect sizes, it is possible that the observed heterogeneity may be attributable to a few anomalous values. For the primary meta-analysis, this procedure found that homogeneity could be achieved for OCB- sportmanship and distributive justice. Analysis also indicated that homogeneity could be achieved in some sub-categories: job satisfaction (cognitive trust), civic virtue (overall trust), organizational commitment (trust in direct leader), altruism (trust in direct leader), and turnover intentions (trust in organizational leadership). Although the results suggest that a better fit to the model might be achieved if a few data points were eliminated, it is difficult to determine the precise reason for the findings (e.g., substantive difference in the studies, loss of statistical power). Consequently, results are reported with all data-points included. A report of results with studies removed can be obtained from the authors.

Discussion

The concept of trust in leadership has played an important role in numerous literatures. To date, however, there has been no attempt to quantitatively summarize and explore the theoretical underpinnings of this body of research. This article provides the first meta-analysis of the primary relationships between trust in leadership and other constructs, explores whether different specifications of the construct moderate these primary relationships, and attempts to provide insight and theoretical parsimony to the literature on trust in leadership.

Theoretical Framework

In initiating this study, we struggled with an expansive literature base that appeared to use an array of perspectives on trust and theories for how it is related to other constructs. In this article, we have offered a theoretical framework to help provide parsimony and to distinguish between two basic perspectives (relational and character-based). We hope that the framework serves as a guide for scholars attempting to interpret past research on trust in leadership and/or use the concept in future studies.

If these two perspectives are to be more useful, additional research is needed to understand the distinctions between them and when each is more applicable. Most individual studies have implicitly tended to recognize and use only of the two perspectives. And, research on trust in leadership as a whole has treated the two perspectives as functional equivalents; relational- and character-based trust theories recognize the same set of determinants of trust, and predict the same set of consequences. Although the theories have processes that may operate simultaneously and may impact each other, they are conceptually independent. For example, a follower may perceive that: (a) the leader has good character, yet he or she does not have a high-quality relationship with the leader; (b) he or she has a high-quality relationship with the leader, yet questions the leaders' overall character (e.g., because of observations of how the leader treats other followers); (c) the leader has questionable character, and he or she does not have a high-quality relationship with the leader; or (d) the leader has good character, and he or she has a high-quality relationship with the leader. In subsequent paragraphs, we provide suggestions for better understanding the two perspectives and the distinctions between them by investigating the mediating

processes by which the theories operate, and moderating conditions under which they are most applicable.

Relationships of Trust in Leadership With Hypothesized Outcomes

The evidence from this study indicates that trust in leadership is significantly related to each of the attitudinal, behavioral and performance outcomes. The finding lends some credence to comments made by scholars and practitioners who have suggested that trust is related to important workplace behaviors and attitudes. As noted earlier, opinions and findings on this issue have differed.

In considering the magnitude of relationships of trust with work outcomes, it is useful to gauge them against other frequently-studied attitudinal/perceptual variables in organizational research such as job satisfaction, organizational commitment, occupational commitment, job involvement, and procedural and distributive justice. Earlier meta-analyses of these literatures make this comparison possible (Brown, 1996; Colquitt et al., 2001; Iaffaldano & Murchinsky, 1985; Lee, Carswell, & Allen, 2000; Mathieu & Zajac, 1990; Organ & Ryan, 1985). The relationships of trust with work outcomes tend to be of equivalent size, and in many cases, slightly larger than, correlations reported in those meta-analyses. As one example, the uncorrected correlation between trust in direct leader and altruism behavior is .22 which is comparable to the estimates reported in prior meta-analyses for the relationships between altruism and job satisfaction (.23), commitment (.20), and procedural justice (.19). We note that trust in leadership is also related to other important variables, such as belief in information and decision commitment, that tend not to be examined in the other literatures. This set of findings is suggestive of two points. First, assuming that the magnitude of the relationships with workplace outcomes is a criterion for judging the practical importance of a construct, trust should be considered as important as other established attitudinal/perceptual variables in the literature. Second, the findings suggest that the appropriate interpretation for the importance of trust in leadership in organizational settings lies somewhere between the perspectives that have advocated its great significance (e.g., Golembiewski & McConkie, 1975) and its insignificance (Williamson, 1993).

The data also provide some insight into the relative magnitude of the relationships between trust and different constructs. As predicted, trust in leadership was most strongly related to work attitudes,

followed by most of the citizenship behaviors, and finally job performance.³ This set of findings is particularly noteworthy since trust theorists most often focus on behavioral and performance consequences of trust, and many practitioners may be most interested in the direct 'bottom line' benefits of trust. Scholars and practitioners should be aware that although trust may impact performance, it may have a marginally greater impact on citizenship behaviors, and a substantially greater impact on people's evaluations and attitudes regarding the workplace.

Given that our analysis demonstrates evidence of significant relationships between trust and hypothesized outcomes, we suggest two important directions for advancing knowledge. First, future research should empirically examine the mediating processes involved. Doing so is important for at least two reasons: It will help distinguish between the effects of the relationship-based and character-based theories, and it will help establish causality. At present, there appears to be minimal research that empirically examines the specific processes by which the relationship-based or the character-based perspectives operate (see Mayer & Gavin, 1999 for the single exception). A study might, for example, explore whether trust in a supervisor affects a particular outcome via processes associated with the character-based perspective, the relationship-based perspective, or both.

Second, there have been few attempts to determine contextual factors (moderators) that determine when trust in leadership will have larger or smaller relationships with various outcomes (see Brockner et al., 1997 for one example). Our analysis was unable to account for all heterogeneity in the effects sizes, suggesting the existence of additional moderating factors. As one example of a situational factor, the greater the vulnerability or uncertainty in a context, the more mindful individuals may be of trust and the greater its impact on outcomes. Following this idea, research might examine whether the impact of trust on outcomes such as altruism, commitment, and intent to quit is magnified in mergers or downsizings (paradoxically, situations in which trust in leadership is often most challenged). Or research might examine whether one theoretical perspective may be more important than the other under different conditions. For example, believing that one's leader has integrity may have a smaller impact on outcomes than believing one has a high-quality relationship with the leader, or vice-versa, depending on the

conditions. Exploring these issues may help identify areas where the two theoretical perspectives on trust diverge in their predictions. It may also have practical significance in that it helps practitioners understand specific conditions in which it is important to focus resources on establishing trust.

Relationships With Hypothesized Antecedents

This study represents the first systematic review of empirical evidence for antecedents of trust. The findings suggest that leadership style and several management practices may be means of increasing trust in leadership: ensuring fair procedures, outcomes, and interactional processes, using participative decision making, providing organizational support, ensuring expectations are fulfilled, and using transformational and transactional leadership styles. Length of relationship had no relationship, and propensity to trust only had a small relationship. Given this pattern of results, one might speculate that future research and practice might have greater success by focusing on leader behaviors and practices. One limitation of existing research on behaviors and practices, however, is that most studies focus on follower perceptions, instead of actual practices or more objective measures of behavior (for an exception see Mayer & Davis, 1999).

In examining different types of leadership actions and practices, some variables had larger observed relationships than others with trust. Transformational leadership, perceived organizational support, and interactional justice had the largest relationships, followed by procedural justice, transactional leadership, distributive justice, PDM, and unmet expectations. Earlier we had theorized that the former three operated primarily via the relationship-based theory, while the latter operated via both theories or the character-based theory. Future research might explore whether actions that operate via the relationship-based theory are the more powerful tools for establishing trust in leadership. For instance, research might explore the extent to which building a relationship based on mutual obligations has a stronger and more robust impact on trust than demonstrating that one has good character. Additionally, research might explore whether the two theoretical perspectives are applicable under different situations. For example, the character-based perspective may be more appropriate in situations where, because of geographical or hierarchical distances, relationship-based perspectives may be less applicable due to the

difficulty in developing high-quality relationships. Finally, researchers might examine other practices and behaviors that are implied by these two theoretical perspectives (e.g., training practices that help managers be more effective at establishing trusting relationships with followers).

Although the evidence suggests that transformational leadership has a substantial relationship with trust, the exact causal process by which the effect occurs remains unclear. One step toward addressing this issue would be to identify the behavioral component(s) responsible for the effect. The literature provides several possibilities: Rich (1997) proposed that role modeling behavior is responsible for the effects, research by Kirkpatrick and Locke (1996) indicated that a charismatic style may have a causal effect, and some scholars have suggested that multiple components may be relevant (Jung & Avolio, 2000; Pillai et al., 1999). Some of these component behaviors may affect trust via the relationship-based theory (e.g., individual consideration) and others via the character-based theory (e.g., role modeling). Given the difficulty of empirically separating the transformational leadership dimensions, and the lack of clarity about how they operate (see Yukl, 1999 for a critique), experimental research manipulating different behavioral dimensions of transformational leadership may be appropriate.⁴

Along these same lines, specifying and empirically examining the processes by which individuals observe actions or other practices (e.g., participative decision making) and subsequently make attributions would be helpful in advancing knowledge and for designing practices. For example, research might examine the behavioral cues that employees use to draw conclusions about the character of leaders (character-based theory) or whether their relationship is one involving care and concern (relationship-based theory). The processes by which employees make attributions to a collective such as organizational leadership are particularly unclear. Hamilton and Sherman (1996), for instance, suggest that different mechanisms for processing information and making judgments may be engaged when the target is a collective as opposed to an individual (e.g., organizational leadership versus direct leader) because the former is typically not assumed to be a unitary entity.

Moderating Effects of Referent of Trust in Leadership

The study provides theory and evidence regarding the importance of recognizing different

referents of trust: Referent was a significant moderator in eight of the ten relationships examined. Trust in direct leader had an equal or greater effect on four of the five workplace outcomes studied, including performance, altruism, intent to quit, and job satisfaction, than did trust in organizational leadership. One implication of this finding is that researchers or managers interested in obtaining the largest effect on these outcomes might focus on trust in direct leader. Our theory and findings also suggest one exception: When the researcher or manager is interested in an organization-focused outcome such as organizational commitment, trust in organizational leadership is likely to have a greater impact. Trust in direct leader may also be correlated with trust in organizational leadership (a post hoc analysis of studies found $r = .38$, $k = 6$, $N = 1159$). Research is therefore needed to understand how trust in one referent influences trust in the other, and also examine the extent to which the two referents account for unique rather than overlapping variance in outcome variables.

For antecedents, while organizational practices such as interactional justice, procedural justice, and participative decision making were related to both trust in direct and organizational leaders, they had larger relationships with the former. Consistent with the predictions of the relationship-based theory, the analysis also found that perceived organizational support was more strongly related to trust in organizational leadership than trust in direct leader. Following our earlier suggestion, future research might probe practices or actions that will ultimately translate into trust in these different referents.

Lastly, future research might examine the relative importance of trust in leadership versus other referents such as peers, and the different consequences associated with them. For example, Dirks (2000) found that after taking into account other determinants, trust in teammates had no effect on team performance, while trust in leadership had a substantial effect. He speculated that under different conditions one might be more important than the other in facilitating team performance. In particular, an individual's relative vulnerability to different referents may determine the extent to which trust in them is more or less important. For instance, in situations such as a self-directed work team in which an individual is more reliant upon peers than a leader, trust in peers may be more important than trust in leadership. Or, both may have effects – but on different outcomes.

Moderating Effects of Definition of Trust

The literature on trust includes multiple operational definitions, often considered to be sub-dimensions of trust. Thus it is curious that empirical studies seldom utilize more than one dimension within a single study, and that researchers have developed few theoretical insights into the different effects that the multiple operationalizations of trust might have, or the differential determinants of those alternative definitions of trust. We have addressed the issue in two ways. First, we developed a theoretical framework that describes how the relationships between trust and its antecedents and consequences will vary depending on how trust is defined. Our theoretical framework may provide additional insight because it also describes the different processes that mediate between antecedents, trust, and consequences. Second, we developed specific hypotheses to test those differential relationships. One limitation of this test was that, due to a paucity of data, we were unable to examine operationalizations of trust that were purely “affective;” instead we compared “cognitive” definitions to “overall” definitions, assuming (based on our review) that overall definitions were usually a composite measure including affective as well as cognitive elements. Seven out of the ten hypothesized moderator effects were significant, and most were in the hypothesized direction. This set of findings indicate strong support for the theory given that, if anything, the weakness in the operationalization of the moderator variable should have diluted the moderator tests and weakened the results. We cannot entirely rule out the possibility that the use of a composite trust measure also distorted the moderator results to some degree. Yet on a broader level, the moderator analysis indicates that operational definition has a strong effect on the relationship between trust and its antecedents and consequences, supporting past theoretical efforts to distinguish among the separate dimensions of trust.

These findings highlight several issues for future research. First, more theory is needed to understand the antecedents and consequences of alternative dimensions of trust. We hope that our theoretical framework represents a step in that direction. The framework highlights the importance in future studies of matching up processes (e.g., social exchange) with the appropriate definitions (e.g., affective trust); many past studies have failed to do so. Second, future studies might include multiple

dimensions (affective and cognitive) within a single study and attempt to distinguish between the processes involved. A few studies have examined multiple dimensions, (e.g., Mayer & Davis, 1999) but most have not hypothesized or examined differential relationships between those dimensions and the antecedents or consequences of trust. A related point is that past studies have focused too often on cognitive trust to the exclusion of affective trust. For practice, the findings imply that a particular management intervention such as procedural justice may be more effectual for developing some types of trust than others; also, one type of trust may be more effective in achieving a particular outcome than another (e.g., cognitive trust for increasing organizational commitment and decreasing turnover intent).

Distinguishing Between Trust in Leadership and Other Constructs

The literature reviewed for this article suggests that the distinctions between trust and transformational leadership, satisfaction with leader, LMX, and consideration behavior are unclear and deserve attention in future research. Trust in leader had very high correlations with transformational leadership ($r = .72$; $r_c = .79$) and satisfaction with supervisor ($r = .73$; $r_c = .85$). Transformational leadership and trust may overlap because the former is measured using behavior description items that are closely tied to trust (e.g., items in multi-factor leadership scale such as “I am ready to trust in his/her capacity to overcome any obstacles”). The problem of item overlap is compounded by the fact that followers are usually asked to complete both instruments. Although the measures of trust and satisfaction with leader are less likely to overlap, it is possible that when respondents report their attitudes about the leader it is difficult for them to separate the two constructs. That is, they may be reporting their global assessment of the leader rather than reporting on two separate constructs. Consequently, results likely overstate the true relationship between trust and these two variables. Future research might therefore focus on better distinguishing the constructs theoretically and empirically.

The nature of the relationship between leader consideration behaviors and LMX is even more unclear. Given the substantial volume of research on leader consideration, one might question why the concept was not included in our meta-analysis. Our review process found only three studies that reported data on trust in leadership and consideration behaviors, a number too few for inclusion in the primary

meta-analysis. Trust is sometimes specified as an "essential element" of the definition of consideration behaviors (Fleishman & Harris, 1962: 43). Because this definition includes trust, it is likely that few studies attempted to examine trust and consideration as two separate constructs. A similar problem arises with LMX -- some studies include trust as part of the definition while others treat trust as a separate construct. Until there is some agreement about whether trust is distinct from these constructs, the advancement of research may be hindered. As implied in Figure 1, we advocate conceiving trust as a distinct construct that mediates the relationships between leader behaviors (e.g., consideration behavior, transformational leader behaviors) and followers' responses to those behaviors (e.g., performance).

Limitations

As is the case in all meta-analyses, readers should use caution in drawing strong conclusions regarding the estimates of individual effect sizes in cases where N and k are smaller (Oswald & Johnson, 1998). We note that the sample sizes in this study are, however, in line with those reported in meta-analyses of other variables in the literature (e.g., Brown, 1996; Gerstner & Day, 1997; Lee et. al., 2000; Mathieu & Zajac, 1990; Organ & Ryan, 1995). In cases where sample size becomes most problematic -- moderator tests -- we suggest examining the pattern of results across variables to draw conclusions about the effects of referent and definition as moderators. These tests tend to provide a fairly consistent set of results, showing effects in most categories. As the literature on trust grows, these results may be further explored. We believe that this meta-analysis represents an important step in helping the literature grow.

Readers should also use caution in drawing conclusions about causality among variables. We classified variables as antecedents or consequences on the basis of how they tend to be theoretically positioned in existing literature. The majority of studies conducted on trust in leadership have, however, been correlational and are not longitudinal. Consequently, a meta-analysis is not able to confirm or disconfirm causality, as there may be multiple viable explanations for an observed correlation (e.g., effect of a third variable, reverse causality, etc.). The limitation suggests that future research should be conducted to limit these threats to validity. Laboratory experiments, which represent a small minority of the studies included in the meta-analysis, can provide evidence about the validity of causal hypotheses.

Field experiments such as Mayer & Davis's (1999) study of how performance appraisal systems can be altered to improve trust provide another option. For correlational studies, researchers may follow examples by Pillai et al. (1999) who attempted to take into account and causally model the relationships between a number of variables. It is also possible that trust has relationships with some variables in which causality is reciprocal (Dirks, 2000; Mayer et. al., 1995). Future research might examine the inter-relationships between trust and other variables. Procedural and distributive justice are examples of concepts that may be both cause and consequence of trust in leadership; e.g., higher levels of procedural justice may increase trust, which in turn might provide a "halo" for perceptions of how one is treated in subsequent decisions.

Summary and Conclusion

In attempting to summarize, integrate, and extend the literature on trust in leadership, this article intended to make several contributions and advances. First, the article attempted to amass and summarize three decades of empirical research on trust in leadership. In doing so, it has provided "best evidence" for the primary relationships between trust and 23 other variables. Second, the article attempted to discuss the implications of specifying the construct with different definitions of trust (cognitive vs. overall) and different leadership referents of trust (direct leaders vs. organizational leadership). Third, the article offered a theoretical framework to help provide parsimony to the expansive literature and help clarify different perspectives on the development and consequences of trust. In addressing the above issues, we hope to provide a foundation for future research on trust in leadership.

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Appendix

Guidelines for Coding Operational Definitions of Trust

Affective: This dimension reflects a belief or perception that one has a special or unique relationship with the referent. Typically, this idea is reflected in a perception that the referent will act in a manner that intends to do good with regard to the trustor, will make sacrifices for the trustor, and will demonstrate concern about the trustor's welfare -- particularly because of the unique relationship. Examples: "I feel a strong sense of loyalty to my leader;" "If I shared my problems with [my leader], I know he would respond constructively and caringly."

Cognitive: This dimension is typically reflected in a belief or expectation that the referent is reliable, has integrity, is predictable, will tell the truth, will act in a fair or just manner, etc. This dimension does not reflect that the trustor has a unique or special relationship with the referent -- the referent would be expected to act in this fashion regardless of the identity of the trustor. Examples: "I believe management has high integrity;" "[My leader] is not always honest and truthful."

Willingness to be vulnerable: This measure comprises of items that express a willingness to allow oneself to become vulnerable to a partner (i.e., a behavioral intention). Example: "If I had my way, I wouldn't let top management have any influence on issues that are important to me."

Overall: Includes items of more than one definition of trust described above (e.g., affective, cognitive). Items using only the term "trust" also fit into this category (e.g., "I trust my supervisor").

To be coded as one of the specific dimensions at least 75% of the items must be from a single dimension. If less than 75% of items are from a single dimensions, it is classified in the "overall trust" category.

Footnotes

1. As pointed out by a reviewer, the literature is unclear as to whether belief in information is a component of trust rather than a distinct construct. As part of the character-based perspective, perceiving that the leader is honest, and in general "tells the truth," may be a component of trust. The construct "belief in accuracy of information" is different yet not entirely distinct, in that it refers to whether one perceives that the information in a particular context or circumstance is accurate. Fulk, Brief, and Barr (1985), for instance, examined whether one's trust in a leader impacts the extent to which information in a performance appraisal is accurate. As discussed later, this construct is one of several in which the conceptual and empirical distinctions between trust and another construct are not unambiguous.
2. A second distinction found in the literature is whether trust is a belief/expectation or a behavioral intention (Mayer & Davis, 1999). Although empirical research utilizing the latter definition appears to be growing, our review found that almost all of the empirical research on trust in leadership to date has utilized the former. Consequently, trust as a belief/expectation will be our focus. We did, however, include both of the definitions in our coding scheme.
3. Although some of the difference in magnitude between the attitudinal variables and other variables is likely to be due to percept-percept inflation, we also suggest that because the attitudinal variables are more psychologically proximal to trust, and the difference is so substantial that it is unlikely to be purely a methodological artifact.
4. We did not report the individual components in our primary analysis, because many of the primary studies reported the data for composites only. We analyzed the existing data on components that did exist. The correlations of the components from the scale of Podsakoff and colleagues are as follows: individual consideration, $r = .70$ ($k = 7$; $N = 4035$); role modeling, $r = .67$ ($k = 3$; $N = 2304$); goals, $r = .57$ ($k = 3$; $N = 2304$); intellectual stimulation, $r = .55$ ($k = 6$; $N = 3852$); vision, $r = .54$ ($k = 4$; $N = 2387$). These results should be considered as exploratory given that data on components were not reported in all studies.

Table 1.

Results of Primary Meta-Analysis: Hypothesized Outcomes and Correlates of Trust in Leadership

Variable	<u>k</u>	<u>N</u>	<u>r</u>	95% CI	<u>r_c</u>	<u>Q</u>
Outcomes						
Job performance	21	5686	.16	.13 to .18	.17	101.20**
OCB - altruism	12	3923	.19	.16 to .22	.22	44.75**
OCB - civic virtue	9	3971	.11	.07 to .14	.13	32.08**
OCB - conscientiousness	6	2624	.22	.18 to .26	.25	33.23**
OCB – courtesy	7	3311	.22	.19 to .25	.25	27.43**
OCB - sportsmanship	9	3971	.20	.17 to .23	.23	32.75**
Intent to quit	17	3297	-.40	-.37 to -.43	-.47	75.21**
Organizational commitment	40	9676	.49	.48 to .51	.59	344.54**
Job satisfaction	34	10631	.51	.50 to .52	.65	469.32**
Belief in information	7	1065	.35	.31 to .40	-- ^a	10.90
Decision commitment	5	1453	.24	.19 to .30	.26	8.42
Correlates						
Satisfaction with leader	13	3302	.73	.71 to .74	.85	230.84**
LMX	8	1183	.69	.66 to .71	.77	142.05**

Notes: k = number of samples; N = total number of individuals in the samples; r = mean weighted correlation; CI = confidence interval; r_c = estimate of mean weighted correlation corrected for attenuation; Q = chi-square test for homogeneity of effect sizes; OCB = organizational citizenship behaviors; * $p < .05$, ** $p < .01$.

^aThe studies did not provide reliability coefficients.

Table 2.

Results of Primary Meta-Analysis: Hypothesized Antecedents of Trust in Leadership

Variable	<u>k</u>	<u>N</u>	<u>r</u>	95% CI	<u>r_c</u>	<u>Q</u>
Transformational leadership	13	5657	.72	.71 to .73	.79	579.59**
Transactional leadership	9	3624	.59	.57 to .61	.67	214.10**
Distributive justice	15	3562	.50	.48 to .52	.58	107.29**
Procedural justice	30	5972	.61	.59 to .62	.68	323.48**
Interactional justice	9	2161	.65	.62 to .67	.71	288.88**
Unmet expectations (breach)	5	1391	-.40	-.36 to -.44	-.43	26.03**
PDM	7	1273	.46	.42 to .50	.52	98.49**
Perceived org. support	6	847	.69	.66 to .72	.76	36.04**
Propensity	7	1113	.16	.10 to .22	.21	3.02
Length of relationship	5	1255	-.01	-.06 to .04	-.01	1.56

Notes: k = number of samples; N = total number of individuals in the samples; r = mean weighted correlation; CI = confidence interval; r_c = estimate of mean weighted correlation corrected for attenuation; Q = chi-square test for homogeneity of effect sizes; PDM = participative decision making; * $p < .05$, ** $p < .01$.

Table 3.
Moderator Analysis by Referent of Trust

Variable	k (N)	Trust in direct leader			Trust in organizational leadership			Q_b	
		r	95% CI	Q_w	r	95% CI	Q_w		
Hypothesized Outcomes									
Job performance	18 (5244)	.17	.14 to .20	88.88**	3 (549)	.00	-.08 to .08	1.01	14.54**
OCB - altruism	7 (3166)	.22	.19 to .25	29.37**	5 (759)	.07	.00 to .14	.19	15.19**
Intent to quit	9 (3041)	-.38	-.35 to -.42	37.97**	7 (954)	-.41	-.36 to -.46	32.85**	.81
Job satisfaction	19 (6863)	.55	.54 to .57	249.98**	13 (3708)	.48	.46 to .51	102.25**	22.66**
Org. commitment	18 (5592)	.44	.41 to .45	39.52**	20 (3831)	.57	.55 to .59	189.79**	89.69**
Hypothesized Antecedents									
Distributive justice	10 (2631)	.49	.46 to .50	58.89**	5 (1060)	.52	.48 to .55	46.58**	1.81
Procedural justice	17 (3747)	.66	.64 to .67	141.25**	13 (2225)	.53	.50 to .55	113.36**	68.88**
Interactional justice	5 (1326)	.77	.75 to .79	35.75**	4 (835)	.43	.37 to .48	47.33**	205.80**
PDM	4 (759)	.59	.54 to .63	29.04**	3 (514)	.23	.15 to .31	.24	61.23**
Perceived org. support	2 (287)	.56	.48 to .62	1.31	4 (560)	.75	.72 to .78	4.65	30.07**

Note: k = number of samples; r = mean weighted correlation; CI = confidence interval; Q_w = chi-square test for homogeneity within class; Q_b = chi-square test for homogeneity between classes; OCB = organizational citizenship behaviors; PDM = participative decision making. * $p < .05$. ** $p < .01$.

Table 4.

Moderator Analysis by Operational Definition

Variable	<u>Cognitive</u>				<u>Overall</u>				
	<u>k</u> (N)	<u>r</u>	95% CI	<u>Q_w</u>	<u>k</u> (N)	<u>r</u>	95% CI	<u>Q_w</u>	<u>Q_b</u>
Hypothesized Outcomes									
Job performance	5 (1089)	.11	.05 to .17	7.07	15 (4457)	.18	.15 to .21	79.82**	4.98*
OCB - altruism	4 (766)	.19	.12 to .26	8.12	7 (2912)	.20	.16 to .23	32.63**	.01
OCB - civic virtue	3 (670)	.01	-.06 to .08	4.53	6 (3301)	.12	.09 to .16	19.86**	7.70**
Intent to quit	8 (2174)	-.45	-.41 to -.48	36.41**	8 (1658)	-.35	-.30 to -.39	25.50**	13.30**
Job satisfaction	13 (1196)	.58	.54 to .58	46.99**	19 (3754)	.51	.49 to .53	313.45**	11.68**
Org. commitment	16 (3061)	.54	.52 to .57	119.24**	23 (6420)	.46	.44 to .48	176.73**	30.70**
Hypothesized Antecedents									
Distributive justice	7 (2321)	.49	.46 to .52	52.95**	8 (1370)	.51	.48 to .56	52.18**	.69
Procedural justice	12 (3140)	.68	.66 to .69	88.90**	17 (2735)	.54	.51 to .56	140.52**	86.91**
Interactional justice	5 (1398)	.64	.61 to .67	178.90**	4 (763)	.66	.62 to .69	109.62**	.36
Correlates									
LMX	3 (511)	.59	.53 to .64	40.58**	5 (672)	.76	.73 to .78	65.34**	36.12**

Note: k = number of samples; r = mean weighted correlation; CI = confidence interval; Q_w = chi-square test for homogeneity within class; Q_b = chi-square test for homogeneity between classes; OCB = organizational citizenship behavior. * $p < .05$. ** $p < .01$.

