

THE ROLE OF TRUST IN ORGANIZATIONAL SETTINGS

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ABSTRACT

Numerous researchers from various disciplines seem to agree that trust has a number of important benefits for organizations, although they have not necessarily come to agreement on how these benefits occur. In this article, we explore two fundamentally different models that describe how trust might have positive effects on attitudes, perceptions, behaviors, and performance outcomes within organizational settings. In the first section of the article we examine the model that has dominated the literature: trust results in direct (main) effects on a variety of outcomes. In the second section of the article we develop an alternative model: trust facilitates or hinders (i.e., moderates) the effects of other determinants on attitudinal, perceptual, behavioral and performance outcomes via two distinct perceptual processes. Lastly, we discuss the conditions under which each of the models is most likely to be applicable. The theory is supplemented with a review of empirical studies spanning forty years regarding the consequences of trust in organizational settings. The theoretical framework presented in this article provides insight into the processes through which trust affects organizational outcomes, provides guidance to researchers for more accurately assessing the impact of trust, provides a framework for better understanding past research on the consequences of trust, and suggests ways that organizational settings can be modified to capitalize on high levels of trust or mitigate the effects of low levels of trust.

Scholars from various time periods and a diversity of disciplines seem to agree that trust is highly beneficial to the functioning of organizations. For example, early organizational scholars professed trust to be an important hallmark of effective organizations (e.g., Argyris, 1962; Likert, 1967; McGregor, 1967). More recently, researchers representing a variety of perspectives have expressed significant interest in trust (e.g., Bies, Sheppard, & Lewicki, 1995; Coleman, 1990; Gambetta, 1988; Hosmer, 1995; Kramer & Isen, 1994; Kramer & Tyler, 1996; Rousseau, Sitkin, Burt, & Camerer, 1998). As Kramer (1999: 569) observed, “this interest has been fueled, at least in part, by accumulating evidence that trust has a number of important benefits for organizations and their members.”

Although organizational scholars have devoted a significant amount of attention to examining the numerous potential benefits of trust, they have devoted significantly less attention to examining the different ways that trust might transmit these benefits. Prior studies appear to make two fundamental distinctions regarding how these effects occur. The dominant perspective is that the effects of trust are transmitted in a relatively straightforward manner: Trust results in distinct (main) effects such as more positive attitudes, higher levels of cooperation (and other forms of workplace behavior), and superior levels of performance. This idea is reflected in most theoretical treatments of trust and its effects on workplace attitudes, behaviors, and performance (e.g., Golembiewski & McConkie, 1975; Jones & George, 1998; Mayer, Davis, & Schoorman, 1995). And, as reported in this article, over 90% of empirical studies examining the consequences of trust have hypothesized and examined main effects of trust. Finally, the idea that an increase in trust leads to better team processes and performance has provided the impetus for numerous interventions by managers and consultants (e.g., see Kaplan, 1979; Tannenbaum, Beard, & Salas, 1992; Woodman & Sherwood, 1980).

Although the perspective described above has dominated the literature, it does not represent the only way that trust might have positive consequences. A handful of studies suggest that trust is beneficial because it facilitates the effects of other determinants on desired outcomes. Hence, instead of proposing that trust directly results in desirable outcomes, this model suggests that trust provides the conditions

under which certain outcomes, such as cooperation and higher performance, are likely to occur. In contrast to the research described in the previous paragraph, this perspective is relatively undeveloped, comprising mostly empirical studies, as yet interpreted in isolation from one another, that were focused on specific contexts and hypotheses. The broader theoretical issues that may provide a solid foundation for understanding the moderating role of trust have received little attention.

The primary aim of this article is to explore these two fundamentally different models in order to obtain a better understanding of how trust might produce positive effects on attitudes, perceptions, behaviors, and performance outcomes within organizational settings. We briefly review the theory for the dominant model and examine the extent to which the data from existing research is consistent with the predictions of that model. As it has seen limited attention, we focus most of our efforts on developing the second model in the form of two propositions. One proposition suggests that trust facilitates the effects of motivational concepts on workplace behaviors and outcomes by influencing one's expectations about another person's future behavior. The second proposition suggests that trust moderates the relationship between an interaction partner's action and the truster's response by influencing one's interpretation of the action. We then consider the conditions under which trust is likely to have a direct effect on desired outcomes, an indirect effect, or no effect. The theoretical framework may assist researchers in better interpreting past research on the consequences of trust, as well as designing future research to assess the effects of trust across a variety of literatures.

FOUNDATIONS OF THE ANALYSIS

In this article, we refer to the two models by which trust operates with terms used by organizational scientists to differentiate how one construct influences another: main effect and moderation. These two models represent important distinctions because they imply different theoretical rationales, different methodological designs, different forms of statistical evidence, and different ways of using trust as a managerial intervention. Hence, developing a better understanding of the role of trust is an important step for research and practice related to the concept of trust.

One element of our analysis is a review of the empirical literature on the effects of interpersonal trust. We compile and analyze research from several literatures over the past forty years to provide a better theoretical understanding of the role of trust in organizational settings. The review identifies the different outcomes trust has been associated with, provides evidence for how trust affects these outcomes, and offers insights that we draw on as one element of our theory development. By using the review as an element of our analysis, we hope to ensure our theory is grounded in evidence and that it produces propositions that can be readily operationalized.

In this article we will focus on the effects of interpersonal trust on individuals' workplace-relevant attitudes and behaviors. Although the concept of trust has been defined in a number of ways, we use the term in a broad sense that reflects theoretical and empirical research in the organizational sciences. Rousseau et al., (1998: 395) proposed the following as a cross-disciplinary conceptual definition of trust: a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another. Individual researchers tend to use slight variations on this definition, operationalizing 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; Johnson-George & Swap, 1982; McAllister, 1995; Robinson, 1996; Zaheer, McEvily, & Perrone, 1998). We use the term in a manner reflecting these conceptual and empirical definitions. In this article, we are consistent with almost all of the studies included in our review in treating trust as a unidimensional psychological state. We recognize, however, that trust is a complex psychological state that may consist of different dimensions.

Because existing trust research is relatively diverse and multidisciplinary, Bigley and Pearce (1998) note that it is important for researchers to focus on particular problems, and then use concepts, theories and methods appropriate for the problems. Based on delineations made by other trust researchers (Worchel, 1979; Lewicki & Bunker, 1995; Bigley & Pearce, 1998), we will focus only on trust as a psychological state, such as a belief or attitude, toward another known individual, as opposed to trust as a dispositional construct (e.g., Rotter, 1967) or among groups or firms (e.g., Wicks et al., 1999, Das &

Teng, 1998). And we will focus on the effects of trust on workplace-relevant attitudes and behaviors of individuals as studied by micro-organizational behavior researchers, rather than on the organization of economic transactions and the concomitant reduction of opportunism within organizations (e.g., Williamson, 1985), or the dynamics of romantic relationships (e.g., Holmes, 1991).

MAIN EFFECT

According to this model, trust operates in a straightforward manner: Higher levels of trust are expected to result in more positive attitudes, higher levels of cooperation and other forms of workplace behavior, and superior levels of performance. As noted above, this model has dominated how the concept of trust has been studied in research and used in managerial interventions.

Given the state of the literature related to this model, we have two objectives in this section. First, we briefly discuss the theoretical rationale for why trust has a main effect on a variety of workplace perceptions, attitudes, behaviors, and performance outcomes. Second, we review empirical research utilizing this model to examine the extent to which the data match the theory's predictions for the different outcomes. These objectives allow us to examine the main effect model and also provide a point of comparison for the moderation model.

As noted above, we conducted a review of the published empirical literature examining the effects of interpersonal trust. The details of the procedures and criteria we used to conduct the review can be found in the appendix. Our review identified 43 studies that used the main effect model; 29 of these examined behavioral and performance outcomes and 23 studies examined attitudinal or perceptual outcomes (some studies examined multiple outcomes). Tables 1a and 1b provide a detailed listing of these studies, categorized by the outcome examined. We also provided a short summary of each study's key proposition, as related to trust. Finally, to determine whether the data support the prediction, we included details on the two primary criteria used to evaluate results of a main effect hypothesis (Rosenthal, 1991): statistical significance and effect size.¹

Insert Tables 1a and 1b about here

Main effects on workplace behaviors and performance outcomes.

Most studies that examine the relationship between trust and interpersonal behavior tend to rest on the premise that individuals' beliefs (i.e., trust) about another party affect how they behave in interactions with the referent of the belief. Mayer et al. (1995) provided a model for this idea. According to their model, individuals' beliefs about another's ability, benevolence and integrity, lead to a willingness to risk, which in turn leads to risk-taking in a relationship, as manifested in a variety of behaviors. In other words, a higher level of trust in a work partner increases the likelihood that one will take a risk with a partner (e.g., cooperate, share information) and/or increases the amount of risk that is assumed. Risk-taking behavior, in turn, is expected to lead to positive outcomes (e.g., individual performance). And in social units such as work groups, cooperation, information sharing, etc. are expected to lead to higher unit performance (Larson & LaFasto, 1989). For the most part, each study reported in this section uses a variation of this argument, designed to fit the particular outcome or context.² These ideas apply for studies that utilize trust as a predictor (e.g., O'Reilly & Roberts, 1974) or that position trust as a mediator in a larger model (e.g., De Dreu, Giebels, & Van de Vliert, 1998).

Researchers have used this basic idea to examine the main effects of trust on a variety of behavioral and performance outcomes: communication and information sharing, organizational citizenship behavior, effort, conflict, negotiation behaviors, individual performance, and unit (e.g., group) performance. For many of the outcomes studied, the evidence for the predictions of a main effect is not robust: statistical significance of the effects is inconsistent across studies and the effect sizes tend to be modest. For example, ten studies examined the idea that individuals transmit more information, and/or information with higher fidelity, to a superior or work partner when they trust that individual. Of these, six studies found a significant effect of trust on various operationalizations of information sharing (Boss, 1978; Mellinger, 1959; O'Reilly, 1978; O'Reilly & Roberts, 1974; Smith & Barclay, 1997; Zand, 1972). But, four studies did not find a significant effect (De Dreu, et al., 1998; Dirks, 1999; Kimmel, Pruitt, Magenau, Konar-Goldband, & Carnevale, 1980; Roberts & O'Reilly, 1974). Likewise, research on the main effects of trust on unit performance shows inconsistent findings. Two studies did find evidence for a

significant, positive main effect of trust on group performance (Dirks, in press; Klimoski & Karol, 1976) and one study reported a significant positive effect on business unit performance (Davis, Schoorman, Mayer, & Tan, 2000). But, other studies examining the main effect of trust on group performance (Dirks, 1999; Friedlander, 1970), negotiation dyad performance (Kimmel et al., 1980; Schurr & Ozanne, 1985), and inter-organizational performance (Zaheer et al., 1997) found only partial support or no support. As shown in Table 1a, similar inconsistencies are found in research examining the main effects of trust on effort, conflict, and negotiation behaviors. In other words, some studies report a significant main effect, others do not.

The outcomes for which the main effect model appears to have the strongest empirical support are organizational citizenship behaviors (OCBs) and individual performance. For example, five studies found significant positive effects of trust on OCBs (Konovsky & Pugh, 1994; McAllister, 1995; Pillai, Schriesheim, & Williams, 1999; Podsakoff, MacKenzie, Moorman, & Fetter, 1990; Robinson, 1996), while one study found insignificant effects (Deluga, 1994). All four studies of the effects of trust on individual performance reported a significant positive effect.

Main effects on workplace attitudes and cognitive/perceptual constructs.

Most studies of the effects of trust on attitudinal and perceptual constructs also utilize the main effect model, although the rationales for those effects are slightly different. For the effects of trust on satisfaction, Rich (1997) suggests that trust in one's manager directly results in increased satisfaction because managers are responsible for many duties that have a major effect on an employee's job satisfaction, such as performance evaluations, guidance on job responsibilities, and training. Therefore as an employee's trust in a manager increases, job satisfaction will also increase. This logic also seems to explain the effect of trust on organizational commitment, although researchers who have studied this empirical relationship have not clearly specified the rationale. Researchers examining the effect of trust on perceptions, for example of the accuracy of information, and acceptance of a decision or goal, tend to build on the idea that trust has a direct impact on people's overall view of the other party.

Most of the studies that examined the effects of trust on attitudes focused on satisfaction, although researchers have also examined the effects of trust on organizational commitment, and preference for integrative bargaining (i.e., cooperative negotiations). Research on the effects of trust on perceptions has examined main effects on the perceived accuracy of information given by another entity, acceptance of decisions from a superior, perceptions of psychological contract breach, procedural justice judgements, perceptions of organizational climate, and perceptions of risk.

In general, the evidence is highly supportive of main effects of trust on attitudes, perceptions, and other cognitive constructs. For example, twelve studies examined the effects of trust on various facets of workplace satisfaction (e.g., satisfaction with decisions, supervisor, relationship, job); all studies demonstrated significant effects. Likewise, the idea that the level of trust in a partner would have a main effect on perceptions of accuracy of information provided by that partner received support in two studies (Benton, Gelber, Kelley, & Liebling, 1969; Roberts & O'Reilly, 1974). In general, lower levels of trust were associated with suspiciousness of the information, while high levels of trust were associated with acceptance of the information. Findings were similar for goal/decision acceptance, procedural justice judgements, perceptions of breach of a psychological contract, perceptions of organizational changes or programs, and perceptions of risk, with most studies showing significant effects.³

Summary of evidence for the main effect model

The studies examined in our review reported fairly consistent significant effects of trust on attitudinal and cognitive/perceptual constructs. One concern in interpreting these relationships is that they may be biased due to percept-percept inflation. However, the results from two studies (O'Reilly & Roberts, 1974; Schurr & Ozanne, 1985) that used reasonably strong experimental designs to examine the effects of trust on satisfaction report effect sizes consistent with other studies, suggesting that a substantial portion of the variance may not be due to inflation.

Overall, the effects of trust on various workplace behaviors and performance outcomes are weaker and less consistent. For many outcomes, some studies revealed a significant effect while others did not. The most promising evidence seems to be for the effects of trust on organizational citizenship

behavior and individual performance. For example, the effect sizes of trust on organizational citizenship behavior noted in Table 1a are similar to those reported by Organ and Ryan (1995) for other key determinants of OCB. In the cases of the other outcomes, the evidence does not seem to provide strong support for the conventional wisdom that is represented by the main effect model – that trust, on average, results in desirable behaviors and outcomes. A clear case in point is the mixed evidence for the effects of trust on dyad or group performance – a relationship that has long been assumed to exist (Golembiewski & McConkie, 1975).

As a final observation, we note that the findings reviewed in this section mirror other cases in which organizational researchers have attempted to validate the idea that positive attitudes or sentiments (i.e., satisfaction, commitment, team building) have a main effect on desirable work behaviors and higher performance (Iaffaldano & Murchinsky, 1985; Mathieu and Zajac, 1990; Tannenbaum et al., 1992; Woodman & Sherwood, 1980). These efforts produced evidence suggesting that although these attitudinal constructs did tend to influence other attitudes, the evidence for the effects on behaviors and performance was disappointing. Each of these reviews concluded that the effects of attitudes and sentiments on work behaviors and performance are unlikely to be straightforward or robust.

Given these findings and observations, we suggest that additional research is needed to better understand the effects of trust, particularly on behavioral and performance outcomes.

MODERATING EFFECT

In this section we explore a different model of how trust might operate in organizational settings: by serving to facilitate (i.e., moderate) the effects of other determinants on work attitudes, perceptions, behaviors and performance outcomes. In other words, trust provides the conditions under which cooperation, higher performance, and/or more positive attitudes and perceptions are likely to occur.

As noted earlier, trust is a psychological state that provides a representation of how individuals understand their relationship with another party in situations that involve risk or vulnerability. Accordingly, trust embodies the accumulated experiences with, and knowledge about, the other party in situations involving vulnerability. Because it represents an individual's understanding of a relationship,

we propose that trust engenders two distinct processes through which it fosters or inhibits positive outcomes in the relationship. First, trust affects how one *assesses the future behavior* of another party with whom one is interdependent (or who may take action that affects oneself). Second, trust also affects how one *interprets the past (or present) actions* of the other party, and the motives underlying the actions. In this section, two propositions are developed that build on these different processes. Both propositions rest on the premise that trust does not act in a direct causal role or elicit particular outcomes itself. Instead, trust moderates the effect of primary determinants (causal factors) on outcomes by affecting how one assesses the future behavior or interprets the past actions of another party. By impacting the assessment of the other party's future or prior actions, trust reduces some of the concomitant uncertainty and ambiguity.

The idea that trust may operate as a moderator is not new, but it has received relatively scant attention in comparison to the main effect model. Rousseau et al. (1998) observed that several theorists focused on interpersonal trust in work relationships have positioned trust as a moderator (in addition to some research in organizational economics and romantic relationships). Within the area of organizational research, Hwang and Burgers (1997) proposed that trust is a necessary, but not sufficient, condition for cooperation; this terminology suggests that trust may act as a moderator, although the mathematical model does not specifically consider how trust might operate in this manner. Mishra and Spreitzer (1998) developed propositions describing both main and moderation effects of trust for a specific research question in a specific context: They posit that in the aftermath of downsizing, survivors' behavioral responses will be determined directly by trust, and also by the interaction of trust with empowerment and work redesign. And, as will be described later in this section, several empirical studies have used the idea of moderation to develop and test specific hypotheses (see Table 2 for details) although these studies have been interpreted in isolation from each other. Although researchers have explored the ideas within specific contexts, they have not yet addressed broader theoretical issues that would provide a solid foundation for understanding the moderating role of trust. Our intent is to extend existing research by: (a) developing propositions based on a consideration of the perceptual and behavioral processes through

which trust operates as a moderator across contexts; (b) providing a theoretical foundation that can guide future research on the role of trust across multiple contexts; (c) offering a framework that will help integrate and interpret existing research, and (d) defining the conditions under which trust is most likely to act as a main effect, a moderator, or neither.

Insert Table 2 about here

Proposition 1. Trust moderates the relationship between motivational constructs and workplace behaviors and outcomes.

This proposition is based on the idea that trust does impact workplace behaviors and performance, but that its effect is not that of directly causing one to engage in those behaviors. Instead, as described below, trust has an indirect effect by providing an assessment of the potential behavior of one's work partner. Contemporary theories of workplace behavior have focused on a number of causal determinants of behavior, other than attitudes or sentiments. For example, micro-theorists suggest that work behavior is caused by needs, goals, or incentives (Kanfer, 1990), and macro-theorists have focused on determinants of work behavior such as roles, rules, structure, culture, and norms (Perrow, 1986). Trust does not seem to reflect, in any way, these kinds of determinants of work-related behavior, and hence perhaps should not be expected to operate as a factor that causes individuals to engage in particular workplace behaviors. Instead, trust might more appropriately be viewed as influencing the type of, or degree of, behavior that such determinants result in, as it allows one to assess the potential behavior of an individual with whom one is interdependent. For example, a motivational construct may provide the drive for cooperative behavior, while trust helps facilitate the occurrence of the cooperative behavior because, under high trust, the individual believes that a partner is willing to cooperate.

This idea can be illustrated by considering the relationship between trust and an outcome it is commonly associated with: risk-taking behavior (Mayer et al., 1995). According to theories of motivation, risk-taking behaviors, like other types of workplace behaviors, are often caused by individual

motives (e.g., propensity to risk), goals, or incentives. Trust, instead of directly causing risk-taking behaviors, may influence the extent to which a motivation for engaging in risk-taking behaviors is likely to lead to risk-taking behaviors. For example, an individual who considers another to be dependable will find it relatively easy to work toward a group goal with that partner, because one does not have to be anxious or concerned about the partner's potential behavior. Hence, the goal is likely to exert a strong effect on behavior and performance, as one can be comfortable directing all of one's resources (e.g., attention, effort) toward the group goal. In contrast, if one considered the partner to be undependable, one would likely be anxious about the partner's behavior, and thus might find it worrisome to work toward the joint goal. Under this condition, the goal is likely to exert a much weaker effect on behavior, as the individual begins to divert resources away from the group goal as a means of self-protection. In this example, trust functions not in a causal role, but as a moderator that influences the strength of the relationship between a motivator (the goal) and an individual's behavior.

This idea can also explain people's behavior in response to other cues that motivate people's behavior such as work roles, cultural and group norms, and organizational rules. For example, individuals generally recognize their work roles and the importance of successful role performance. In addition, managers sometimes request that employees engage in actions outside the prescribed roles. To the extent that individuals trust their managers, they are likely to be able to devote all their resources (e.g., attention, effort) to role performance, norm conformance, rule compliance, and/or managers' requests, because of their confidence that they will receive appropriate rewards and not be undeservedly penalized for doing so. However, if an individual considered the manager to be undependable, the individual would likely become concerned about the manager's response, and thus might find it worrisome to behave as expected or requested. Under this condition, the role, norm, rule, or managerial request is likely to exert a much weaker effect on the individual's behavior, as the individual diverts resources for self-protection. In these examples, trust functions not by causing the individual to engage in the behavior, but as a moderating construct that influences the strength of the relationship between the behavioral cue and the individual's behavior.

Evidence. Data from three studies are consistent with this proposition. Dirks (1999) found that trust did not have a main effect on group processes and performance, but did moderate the relationship between group members' motivation and group processes and outcomes. For example, groups with high levels of motivation tended to direct their effort toward group goals in the high-trust condition, but they directed their effort toward individual goals in the low-trust condition. And motivation had significant, positive effects on group performance in the high-trust condition, but motivation had no effect on performance in the low-trust condition. Presumably, the group's energies were channeled toward either group or individual goals, depending upon the level of trust within the group. Similarly, in a negotiation, Kimmel et al., (1980) found that trust did not produce a main effect on information exchange or outcomes (joint benefit), but it did interact with aspiration levels to influence negotiation processes. Under high trust, high aspiration levels produced high levels of information exchange and integrative (cooperative) behavior under high trust. But under low trust, high aspiration levels produced extremely low levels of information exchange and high levels of distributive (competitive) behavior. In interpreting the results, the researchers suggested that negotiators deemed risky, cooperative behaviors to be prudent tactics under conditions of high trust only; under low trust, negotiators chose to use methods that put them at lower risk to reach their goals. Finally, Read (1962) proposed that as individuals' motivation to be promoted increased, they were less likely to share negative information about their work with their bosses. He suggested that this relationship would be moderated by trust, i.e., the tendency to withhold information would be particularly acute when the subordinate did not trust the boss. The data supported these ideas.

Taken together, these three studies demonstrate a pattern consistent with our theorizing: trust influences task-related behavior and/or performance via moderation. Specifically, trust affects the level and/or type of behaviors that individuals engage in as a result of motivational constructs. For example, not trusting one's co-workers may cause an individual to be anxious when working with them because of the risks involved in engaging in cooperative behavior. If highly motivated to work towards a goal, the individual is likely to choose to engage in behaviors that minimize the risks, but still allow achievement of the goal. Alternatively, high levels of trust seem to allow that motivation to be expressed in ways that

involve more risk, but may result in higher overall achievement. The proposition may be integrative in explaining how trust operates across a variety of contexts, as the three studies examined three different phenomena (group performance, negotiations, superior-subordinate relationships), conducted in experimental and field settings, and were studied at the individual, dyadic, and group levels of analysis.

The above ideas provide an illustration of, and evidence for, how trust operates as a moderator in a variety of contexts. In the next two sections, we consider how this proposition might be applied to research in two specific contexts: mixed motive situations and the production of OCBs. These two contexts were chosen as they provide existing theoretical frameworks that we can build on.

Cooperative behavior in mixed motive contexts. A substantial amount of research relevant to organizations has attempted to understand the determinants of cooperation in situations where interdependent individuals have mixed motives. Researchers have studied this problem using various types of experimental games including social dilemmas, a prisoner's dilemma, and negotiations (Komorita & Parks, 1995). In this section, we draw upon the goal/expectancy model (Pruitt & Kimmel, 1977) from the experimental gaming literature to examine how interpersonal trust might facilitate cooperative behavior. Although prior research on trust in this domain has tended to examine dispositional trust among unfamiliar actors, our focus will be on interpersonal trust as defined earlier.

Following the goal/expectancy model, researchers have suggested that a primary determinant of cooperative behavior in such contexts is participants' goals for achieving cooperation (Pruitt & Kimmel, 1977; Yamagishi, 1986), or more precisely, a goal for cooperation being the dominant goal for an individual (as opposed to a goal for non-cooperation). The goal, which may be determined by a number of factors such as the incentive system, provides the motive for cooperation. But, as researchers note, such a goal is insufficient for cooperation to occur because participants must expect that their partner will also cooperate (Pruitt & Kimmel, 1977; Yamagishi, 1986). Lacking this expectation, cooperation is unlikely to be attractive and/or feasible. Trust represents an expectation of cooperation that may make cooperation attractive and feasible.

Building on the goal/expectancy model, one might propose that trust would moderate the relationship between individuals' goals and cooperative behavior. Specifically, under low trust, cooperative goals are unlikely to be translated into cooperative behavior (or the effect of the cooperative goal will be tempered), while under high trust cooperative motives are more likely to be translated into cooperative behavior. Although this example provides an explanation of a situation in which the cooperative motive is dominant, the idea can also apply to situations in which cooperative motives and competitive motives (e.g., created by the incentive system) are more equally weighted. In this case, we predict that trust will determine which of the two motives is attended to. In other words, under high levels of trust, the individual will be more likely to attend to the cooperative motives, while under low levels of trust the individual will be more likely to attend to the competitive motives. This prediction builds on the idea that because trust influences the individual's assessment of the partner's future action, it helps one assess the viability of cooperative behavior. For example, in this situation, an individual with low trust in his partners is likely to perceive that cooperative behavior is unlikely to result in personal gains as he believes the partners will take advantage of his actions.

In sum, in mixed motive situations, we propose that trust will moderate the relationship between cooperative motives and cooperative behavior. At present, there does not appear to be explicit evidence from the experimental game area that directly supports this idea, but the expectancy/goal model provides a theoretical rationale for it.

Organizational citizenship behavior. As noted in our review, researchers have found consistent support for a main effect of trust on organizational citizenship behavior. We believe, however, that there is a theoretical reason to expect that trust may also affect OCB via moderation.

Such an idea can be derived from Organ's (1990) exposition of the "motivational basis" for organizational citizenship behavior. Organ proposes that individual dispositions have a main effect on behavior and that this effect is moderated by perceived fairness or satisfaction. For example, conscientiousness, a disposition with motivational properties, exerts a main effect on OCB. According to Organ (1990), dissatisfaction produces a "damper" effect on this relationship. Specifically, under low

levels of perceived fairness or satisfaction, individuals who might normally be motivated to engage in citizenship behaviors will withhold them.

We suggest that trust might operate in a similar fashion by moderating the relationship between determinants of citizenship behavior (e.g., dispositions) and the expression of citizenship behavior. In other words, individuals who might normally be motivated to engage in citizenship behavior will tend to withhold it under low levels of trust. The social exchange perspective used by other researchers to specify the relationship between trust and OCB provides the rationale for this idea. Specifically, researchers argue that under social exchange there are no specified future obligations as there are in economic forms of exchange. Hence, in cases where individuals do not trust the other party (e.g., their employer), their tendency to engage in OCB (or other positive forms of discretionary behavior) is likely to be suppressed because they feel that the other party will take advantage of their good citizenship and fail to respond in kind. Alternatively, under high levels of trust, individuals will not have such reservations and their tendency to engage in OCB is more likely to be expressed.

Presently, there appears to be no empirical evidence to explicitly support this proposition, as existing research has only examined the main effects of trust on OCB.

Proposition 2. Trust moderates the relationship between a partner's action and the truster's response.

We propose that trust may also provide conditions under which cooperation and higher performance are likely to occur in a second manner: by moderating the relationship between an interaction partner's action and the truster's response via interpretation. Specifically, trust affects one's interpretation of another's past action or events relating to the past action: Under high levels of trust one is more likely to respond favorably to a partner's action than under low levels of trust.

Interpersonal behaviors are usually ambiguous to some degree, therefore interpretation is used to reduce ambiguity so that individuals can respond appropriately to others. Scholars have long recognized that people's preexisting beliefs and evaluations guide their interpretations of objective reality. They determine to a great extent what people see and hear, and "draw lines about and segregate an otherwise

chaotic environment; they are our methods for finding our way in an ambiguous universe” (Allport, 1935: 806). They have been found to relate to what is perceived in an ambiguous scene, to affect individuals’ causal interpretation of a target person’s behavior, and to affect individuals’ evaluations of attitudinally-relevant empirical evidence (Fiske & Taylor, 1991).

Logically, one’s response to an action taken by another party will be a direct function of the action per se, and its characteristics (e.g., valence, severity, and frequency). We suggest, however, that the same action could be interpreted and reacted to differently, depending upon the level of trust that one has in the other party. Because it is a core element of an individual’s understanding of his or her relationship with other parties (Berscheid, 1994), trust provides a perspective from which to interpret the action. Consequently, it may affect the extent to which the action is salient, the conclusions one draws about the factors motivating the partner’s action, and ultimately one’s psychological and behavioral responses to the action. For instance, although the valence of feedback impacts employee responses (Fedor, 1991), trust in the manager may moderate this relationship. In response to negative feedback from a trusted manager, an employee is likely to consider the feedback accurate, and expend extra effort to try to improve performance. Yet in response to negative feedback from a manager who is not trusted, an employee is likely to doubt the accuracy of the feedback, and not expend extra effort to improve performance. In these examples, an action on the part of the manager – providing negative feedback – resulted in different attitudinal, perceptual and behavioral responses depending on the level of trust.

As a specific example of this more general proposition, Mishra and Spreitzer (1998) suggest that in the aftermath of a downsizing, survivors’ level of trust in top management influences the extent to which the downsizing is considered a threat, and this appraisal affects survivors’ reactions to changes in the level of empowerment and work redesign. Below we describe several empirical studies that are also consistent with the proposition. While these hypotheses have been developed to describe the contingent relationship between specific variables in specific contexts, proposition 2 provides a more general logic that can be used to develop hypotheses for a diverse set of research questions and contexts.

Evidence. Three studies demonstrate how trust may moderate the relationship between another party's action and a psychological response. Robinson (1996) found that initial trust in an employer moderated the relationship between a psychological contract violation and subsequent trust in the employer. She argued that because of the tendency toward cognitive consistency, initial trust guides individuals to selectively perceive and interpret information about the violation in different ways. For example, an individual with high initial trust will tend to perceive the violation in ways consistent with that level of trust (e.g., as unintentional, a misunderstanding); through this process a high level of trust is preserved. Under low trust, the opposite was proposed to occur. Similarly, Benton et al., (1969) found evidence that trust influenced the relationship between deceit by a partner and doubting the partner's word. Specifically, after being deceived by a partner to a limited extent, individuals with high levels of trust in the partner tended to hold little doubt about the partner's truthfulness. Alternatively, under the same level of deceit, individuals with low levels of trust in their partner tended to have significant doubt about the partner's truthfulness. In their research on employees' interpretations of organizational change, Rousseau and Tijoriwala (1999) found some evidence that trust in management moderated the relationship between management's reasons for change and the perceived legitimacy of those changes.

The proposition that different behavioral responses to a partner's actions may occur under high and low levels of trust is demonstrated by two studies. Simons and Peterson (2000) found that trust moderated the relationship between task conflict and relationship conflict within groups. They proposed that, under low trust, task conflict within a group is interpreted negatively and subsequently results in relationship conflict. Alternatively, under high levels of trust, they suggested that task conflict would be more likely to be interpreted positively and hence would not be translated into relationship conflict. Schurr and Ozanne (1985) found support for trust as a moderator of the relationship between bargaining stance of a partner (tough versus soft) and several outcomes (integrative behavior, distributive behavior, and agreements reached) in a bargaining situation. For example, under high trust a tough bargaining stance led to integrative behavior and high levels of agreement; under low trust a tough bargaining stance resulted in more distributive behavior and low levels of agreement. The authors suggested that this was

the case because prior levels of trust frame the perceptions of the partner's behavior (e.g., toughness) and the motives underlying it.

In sum, these five studies support the proposition that trust influences the relationship between a partner's action and an individual's response to that action. Three of the studies (Benton et al., 1969; Robinson, 1996; Rousseau & Tijoriwala, 1999) provide evidence specifically suggesting that this occurs by influencing an individual's perception of the partner's action: under high trust the action is interpreted positively, but under low trust the action is more likely to be interpreted negatively. Hence, the individual is acting in response to the partner's actions (e.g., deceit by a partner, intent to cooperate), as opposed to trust directly. Trust shapes the response elicited.

Although the studies focused on different phenomena (e.g., psychological contracts, negotiations, group decision making, social dilemmas) and examined phenomena at the individual, dyadic, and group levels of analysis, the five studies provide a consistent pattern when integrated.

Future research. This idea could be used within the context of other relationships within organizations where trust is reputed to be important for fostering cooperation. For instance, researchers might examine how trust operates as a moderator in negotiation processes between labor and management. Some researchers describe negotiation processes as a sequences of actions that unfold as individuals interact with and respond to each other (Weingart, 1997). Putnam and Jones (1982), for example, examined how individuals in labor and management roles responded to each others' negotiation behaviors via reciprocity. One might posit that trust would affect this process by moderating the relationship between negotiation behaviors and responses to the behaviors. Under high levels of trust, the pattern may be more likely to evolve into a cooperative pattern as individuals interpret each others' behaviors positively; under low levels of trust the pattern may be more likely to evolve into a competitive pattern as individuals interpret each others' behaviors negatively. For example, actions taken by one side (e.g., concessions) may lead to negative interpretations ("They are trying to take advantage of us!") under low levels of trust between the parties, but lead to positive interpretations under high levels of trust. In addition, drawing on Simons and Peterson (2000), conflict over the terms of an agreement may trigger

relationship conflict “through a process of misinterpretation and reprisal.”

These ideas could also apply to understanding interaction processes in other contexts, such as virtual teams. Given the limited amount of contextual information (e.g., Daft & Lengel, 1986) that is available to members of a virtual team about their partners’ behaviors and motives, the effect of trust as a moderator may be significant. For example, within a virtual team, the relationship between a partner’s behavior and one’s interpretation of and response to that behavior may be highly contingent upon the level of trust. In such a situation, the level of trust may provide a powerful lens through which that action is interpreted and responded to.

Summary of the moderation model

In this section, we developed two propositions regarding how trust provides the conditions under which favorable perceptions, attitudes, behaviors and performance outcomes are likely to occur. In other words, higher levels of trust increase the likelihood that determinants of cooperation will actually result in favorable outcomes; lower levels of trust decrease the likelihood. We suggested that there are two distinct ways in which trust might operate in this fashion.

The evidence that was used to provide tentative support for this theory came from a variety of settings and situations including supervisor-subordinate relationships, work groups, negotiation dyads, and social dilemmas. In addition, it was gathered in both field and experimental settings. The consistency across these settings suggests that the propositions may have potential to provide an integrative understanding of how trust operates.

CONDITIONS UNDER WHICH THE MODELS ARE LIKELY TO BE APPLICABLE

In this article, we have discussed two models that describe different ways that trust might operate in organizational settings: the main effect model, and the moderation model (propositions 1 & 2). We suggest both models are valid, but that given a particular context, one model will better describe the effects of trust than the other. Thus we now consider the conditions under which trust is likely to operate as a main effect, a moderator, or neither.

We use the concept of "situational strength" to delineate when each model is likely to be applicable. Researchers suggest that situations are "strong" to the extent that they provide guidance and incentives to behave in a particular way, and lead everyone to construe the particular events in a similar way (e.g., Mischel, 1977: 347). In contrast, situations are weak to the extent they do not provide guidance or incentives to behave in a particular way, and do not provide clear or powerful cues that lead individuals to interpret the events in a similar way. Organizational researchers have found this concept to be helpful for understanding the role of psychological states and traits (e.g., attitudes, personality, beliefs) in impacting workplace outcomes, given the existence of other determinants such as reward systems, rules, and group and cultural norms (e.g., Davis-Blake & Pfeffer, 1989; House, Shane, & Herold, 1996). Examining the simultaneous effect of trust (a psychological state) and other determinants via the concept of situational strength builds on arguments presented earlier in this article: In many situations, there are factors that have more proximal and direct effects on workplace outcomes than does trust.

We suggest that the main effect model will be particularly applicable in situations that are weak for the outcome in question. The main effect model is built on the idea that, because trust is a positive psychological state, absent other more powerful or proximal determinants, one will be more likely to engage in a variety of desirable actions (e.g., cooperation). Consequently, in weak situations, where other factors do not play a strong role in guiding outcomes, a higher level of trust will have the opportunity to result in positive outcomes (e.g., behavior, attitude). Instead of facilitating or hindering the effects of other constructs (which by definition are not operative) as described in propositions 1 and 2, trust will itself have a more direct effect on the outcome.

However, as situations increase in strength for the outcome in question, the main effect of trust declines as other cues emerge that more directly impact the outcomes. In mid-range situations, where cues are neither weak nor strong in directing an individual toward an outcome, trust helps to "tip the scales," as it helps the individual assess the future behavior of another party and/or interpret past behavior. For example, as discussed in proposition 1, trust will moderate the effects of behavioral cues on behavioral and performance outcomes due to the assessment of the potential behavior of one's partner. For

proposition 2, when a partner's actions are somewhat ambiguous but not entirely so, trust helps to reduce that ambiguity via interpretation. In other words, because of the moderate ambiguity, individuals' interpretive processes will shape how the partner's action is perceived, and thus will shape the individual's response to that action.

Lastly, in situations that are very strong for the outcome in question, outcomes become "over-determined" (dominated) by other factors, and therefore trust is unlikely to demonstrate an appreciable effect. More specifically, as cues to behave in a particular way become very strong, concerns related to trust in the other party are likely to be set aside and therefore trust will not facilitate or hinder the effects of the cues as described in proposition 1. And as another party's actions become very unambiguous, proposition 2 is likely to become less applicable because interpretation becomes unnecessary.

In summary, we propose that trust will demonstrate a main effect in situations that are weak for the outcome in question, and will have no effect in strong situations. In mid-range situations, trust will facilitate the effects of other factors by reducing the ambiguity associated with assessing others' potential future behavior or the motives underlying others' past behavior. Given that situations are arrayed along a continuum from weak to strong, in theory trust may sometimes simultaneously operate via both models. We suggest, however, that the dominant observable effects are likely to be as a main effect or a moderator, contingent upon the strength of the situation. An implication is that, in many cases, researchers should examine main and interactive effects of trust.

Implications

Some researchers have argued that most organizational settings are relatively high in situational strength due to the deliberate use of reward systems, rules, goals, etc. (Davis-Blake & Pfeffer, 1989). This would likely include many of the day-to-day situations that organizational members experience. However other researchers have countered that many situations, such as mergers, downsizings, the founding of an organization, cultural changes, structural changes, and situations involving the existence of numerous competing goals, are weak (e.g., House, Shane, & Herold, 1996). Given this variance in the situational strength of work settings, our analysis suggests that trust will operate in substantially different ways

according to the work setting. For instance, one might speculate that trust will have a significant main effect on employee's reactions in a downsizing or a merger, due to the uncertainty involved, but may have a moderating effect in situations where there is less uncertainty and ambiguity.

In addition, different types of research settings also vary in their strength. Prior research has recognized that experiments conducted in laboratory settings are less likely to show main effects of psychological constructs such as attitudes, partially because experiments create moderate to strong situations (Eagly & Chaiken, 1993). In fact, many of the studies in the present review that found effects for trust as a moderator, but not as a main effect, used experimental methods in laboratory settings.

One might also extend the logic of strong and weak situations to make predictions about the types of outcomes that, on average, would be more susceptible to be governed by predictors other than trust. For example, absenteeism is likely to be largely dictated by organizational rules, sanctions, and reward systems. Consequently, we might expect trust not to operate as a main effect on absenteeism, but instead operate as a moderator or not at all. In contrast, other acts are more "discretionary" (e.g., organizational citizenship behavior) across most situations, and therefore trust may be more likely to demonstrate a main effect. The effect of trust on attitudes would follow a similar logic.

Finally, we note while these ideas are useful for identifying which model better describes the effect of trust, they also help resolve discrepant predictions made by researchers who claim that interpersonal trust has no significant impact in organizational settings (e.g., Williamson, 1993), with those made by researchers who argue it has a substantial impact (e.g., Golembiewski & McConkie, 1975; Kramer, 1999). The former rests on the assumption that organizations are largely (strongly) governed by factors such as contracts, rewards, rules, etc., while the latter makes no such assumption. Consequently, drawing on the logic articulated above, depending upon which assumption is warranted in a given situation, trust may operate as a main effect, a moderator, or not at all.

DISCUSSION

The idea that trust has numerous benefits for organizations has been, and continues to be, a major impetus for research on trust (Golembiewski & McConkie, 1975; Kramer, 1999). Our review indicates

that there is empirical support for the idea that trust has important benefits for organizations. However, researchers should hesitate to assume that these benefits are always transmitted in a singular or straightforward manner, or even that the effects of trust and the mechanisms through which it operates are the same regardless of the organizational context. The primary purpose of our article is to examine two alternative models that describe the way in which trust operates, further develop the moderation model, and explore when trust is likely to function in according to each model.

Research implications

The propositions on moderation are likely to have implications not only for researchers interested in understanding the role of trust, but also for researchers in other literatures. Because the two propositions describe how trust influences the impact of a range of predictors on perceptions, attitudes, behaviors and performance outcomes, researchers outside the trust area may be able to utilize the propositions to better understand heterogeneity in established relationships between the constructs of interest in that area. For example, we previously explored how propositions 1 and 2 may be applicable for research on negotiations, organizational citizenship behavior, strategic games, and virtual teams. We do not feel the propositions are limited to these areas; rather, we believe the ideas may apply more generally to problems where there is uncertainty and ambiguity about future or past actions of another party under conditions of vulnerability.

As suggested earlier, trust, as a representation of how individuals understand their relationship with another party, operates by affecting how one assesses the future behavior or interprets the actions of another party. Much of the existing research on the consequences of trust has been focused on trust as being about expectations of future behavior of another party. Future research may give more consideration to the significant role that trust plays on interpretations of behavior, the motives underlying those behaviors, and how this affects individuals' responses. Previously we explored how this idea might be helpful in examining negotiation processes and how trust may impact reciprocity. Likewise, it might be helpful in studying other reciprocity-based processes such as retribution (Bies & Tripp, 1996). Low trust would be expected to fuel a retribution process, while high trust may limit it. As a final example, it

may be helpful for understanding how and why employees respond to managerial actions in organizations that have experienced recent organizational changes that have broken trust.

While the framework describes the effect of trust as primarily a main or moderated effect depending on the strength of the situation, the framework also suggests that in some cases trust may simultaneously have a main *and* moderating effect. This presents a methodological concern because of the difficulty of interpreting a main effect in the presence of a significant interaction. The main effect model suggests that the effect of trust is linear, while the moderation model suggests that the effect is nonlinear. Therefore, when an interaction is present a main effect should not be interpreted as a constant effect, but only as an average effect, recognizing that the actual effect varies over different levels of trust and the other predictor variable(s) (see Jaccard, Turrisi, & Wan, 1990). Accordingly, when trust simultaneously operates via both models, it may be difficult to draw a clear conclusion about the magnitude of the main effect. Yet it will be particularly difficult to do so if predictor variables other than trust, and/or the interaction terms, are excluded from the model.⁴ Consequently, in mid-range situations researchers should be careful to measure predictor variables other than trust; failing to do so may result in an erroneous interpretation of the nature (i.e., main vs. moderation) of the effect of trust, and/or the magnitude of the main effect. Thus the framework in this article may assist researchers in better anticipating the effects of trust in various workplace contexts, and appropriately designing research so that they can more accurately assess those effects empirically.

The ideas presented, and evidence reviewed, suggest that trust has an important impact on attitudinal and behavioral outcomes. But, the propositions and framework presented in this article suggest that in many situations there are other constructs that can have a more direct and substantial impact on outcomes than does trust. Future research might examine the impact of trust relative to these other determinants in order to obtain a better understanding of the role of trust in organizations.

Lastly, it is important to note that the main effect and moderation models often do not describe all factors that may impact the effects of trust on outcomes. As one case-in-point, while the models describe how trust impacts the behavior of the truster, they do not address other factors that may affect the

outcome such as the actual behavior of other individuals. (Note that proposition 1 deals with the anticipated future behavior of the trustee, while proposition 2 deals with the past behavior of the trustee; neither proposition predicts the actual future behavior of the *trustee*). For example, when outcomes depend upon multiple parties (e.g., group performance outcomes resulting from group members' cooperative behavior) the effect of any single individual's level of trust on the outcome may be diffused or otherwise limited. Research in particular literatures that are affected by these factors will clearly need to take them into account.

Managerial implications

Our analysis suggests that, broadly speaking, managers interested in capitalizing on high trust or mitigating the effects of low trust have at least two options available to them. First, they may attempt to change the level of trust in their organizations. A number of interventions have been developed for this purpose, and while they appear to be effective in changing trust levels, their impact on other outcomes is inconsistent (e.g., Woodman & Sherwood, 1980). Our analysis suggests that this inconsistency may be due to the situation: While increases in trust are likely to have a direct positive impact in weak situations, they will only have a contingent impact in mid-range situations and will have no impact in strong situations.

Second, managers often have the capacity to change the strength of situations. Our analysis suggests and provides a theoretical rationale for the idea that when trust is high, managers can capitalize by destructuring: making the situation very weak so that outcomes are determined by trust rather than by other factors. However, when trust is low, managers will benefit by creating a highly structured environment so that trust will neither directly nor indirectly cause negative outcomes. In fact, trust levels are usually at their ebb during periods such as organizational crises, downsizings, and mergers, when situations are weak and low trust is therefore likely to have a direct negative effect. Managers cognizant of these processes can therefore strengthen such situations by introducing strong and unambiguous proximal cues despite the broader uncertainty inherent in the situation. These ideas also suggest that

managers may be more successful in implementing change efforts on a proactive rather than reactive basis, doing so in 'good times' rather than bad, when trust levels are high rather than low.

"Downside" implications of the moderation model

In the section on moderation, we focused on the positive benefits that trust may facilitate. These positive benefits occurred because trust provided the individual with an assessment of another party's future behavior and/or interpretations of the party's past behavior. Consequently, under high levels of trust, the truster was more likely to cooperate, put oneself at risk to the other party, and/or perceive the other party's actions in a positive light.

It is important to recognize, however, that high levels of trust may not always be warranted. When trust is not warranted there is a significant potential downside of providing a greater "opportunity for malfeasance" (e.g., Granovetter, 1985: 491; Kramer, Brewer, & Hanna, 1995) because it affects assessments of future behavior and/or interpretations of past behavior. For example, Benton et al., (1969) found that despite being taken advantage of 25% of the time by a partner, high-trust participants failed to lose trust in the partner and continued to allow the partner to systematically take advantage of them. In other words, instead of being a "mechanism that mitigates against risk," as some economic scholars suggest (c.f. Bigley & Pearce, 1998), trust may actually increase the potential for opportunistic behavior to occur. Hence, the dynamics of the moderation model provide two theoretical rationales for why trust might simultaneously provide the conditions under which cooperative behavior is more likely to occur, but also under which opportunistic behavior is more likely to occur.

Conclusion & summary

Over the last several decades management researchers have increasingly recognized that trust plays an important role in work organizations, and empirical evidence has generally but not consistently supported this perspective. In most cases, scholars have assumed that trust has a direct, positive effect on outcomes of interest, and have designed empirical research to assess these direct effects. In this article we have developed an alternative model that describes how trust functions as a moderator, facilitating or hindering the effect of other determinants on outcomes of interest. In doing so, it attempts to make several

contributions: (a) developing the idea of moderation at the level of propositions, which will allow authors of future empirical studies of trust from a variety of literatures to develop hypotheses and research designs specific to their question and context; (b) identifying and discussing two distinct psychological processes through which trust may act as a moderator; (c) specifying when (i.e., under what conditions) trust is likely to demonstrate a main effect, a moderating effect, or neither; and (d) reviewing and integrating the existing empirical literature on trust. The framework has implications for positioning trust theoretically, studying it empirically, and utilizing it practically.

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FOOTNOTES

1. Although the effect sizes reported in the tables provide important information, readers should be appropriately cautious in the interpretation of them. First, there are a number of studies for which we were unable to estimate an effect size – and many of those were cases where the results were reported as statistically non-significant. Second, a number of the relationships may be slightly inflated as a number of studies measured trust and the dependent variables at the same time, using the same methods, and/or using the same source. Third, effect sizes should be interpreted as evidence of the existence of a relationship, but not as evidence of causality (Rosenthal, 1991).
2. For purposes of completeness, we note three studies that examined outcomes associated with trust, although they do not fit the main effect model described here. Two studies suggest that an individual's trust in another party affects the *other party's* behavior. For example, Atwater argued that subordinates' trust in their manager affected the amount of "supportive" behavior the *manager* engaged in. Fried, Tieg, and Bellamy (1992) proposed that when superiors perceived that their subordinates did not trust them they avoided evaluating the performance of the subordinates, (presumably because they felt the subordinates would question their appraisals). Lastly, Ross and Wieland (1996) examined the idea that a mediator's perception of the negotiating parties' trust in each other influenced the mediator's strategy.
3. We also note that there were several studies that we coded as examining the effects of trust on behaviors and/or performance, although they arguably could be catalogued as supporting the main effects of trust on perceived behaviors. In other words, the studies were operationally examining the effect of trust on perceptions of behavior, as reported by the truster (e.g., Porter & Lilly, 1996, De Dreu et al., 1998).
4. This observation may enable researchers to better interpret the results of past research, as summarized in Tables 1 and 2. In the studies reported in Tables 1 and 2 there is inadequate information to rate the research setting as, e.g., weak, mid-range, strong or somewhere between these points. Thus it is likely, albeit not demonstrable, that some of the studies in Table 1 may have omitted important predictor variables and/or interaction terms. If this were the case, the main effects would tend to be

inconsistent (since the main effect of trust is not constant) and occasionally weak (since in mid-range and strong situations trust should not have main effect). While the results in Table 1 differ by dependent variable, overall they do appear to be fairly inconsistent and weak. In contrast, the interpretation of interaction terms is not necessarily impaired by the presence of a significant main effect. If it is assumed that most of the studies reported in Table 2 were set in mid-range situations where the moderation model is applicable, this provides a plausible explanation for the more consistent support for the moderation model examined in Table 2.

APPENDIX

PROCEDURES FOR IDENTIFYING EMPIRICAL STUDIES

Steps

1. Search of electronic databases: *PsycINFO*, *ABI Inform*, *Social Science Abstracts*.
2. Examine reference lists of prior non-empirical research that included a review (e.g., Golembiewski & McConkie, 1975; Kramer, 1999; Mayer et al., 1995; Pruitt & Carnevale, 1993; Ross & LaCroix, 1996).
3. Manual review of journals (1980 to present): *Academy of Management Journal*, *Administrative Science Quarterly*, *Journal of Applied Psychology*, *Organizational Behavior and Human Decision Processes*, and *Organization Science*.
4. Perusal of reference section of articles identified in prior steps.

Criteria for inclusion

1. Trust was defined as a psychological state (see introduction for details). Studies operationalizing trust as a behavior (e.g., Deutsch, 1958; Komorita & Mechling, 1967) or as a disposition (e.g., Rotter, 1967) were excluded.
2. The study positioned trust as an antecedent variable and trust was specifically hypothesized to be related to a dependent variable that was a behavior, an indicator of performance, or a work-related attitude or cognition. Accordingly, we did not include any articles in which trust was solely positioned as a correlate (e.g., Kavanagh, 1975) or as a dependent variable.
3. Studies that quantitatively measured trust (e.g., with a survey) or manipulated it were included; qualitative studies were not included.

Note: We believe that the procedures described above should have detected the bulk of relevant empirical studies. We recognize these procedures may have missed a few studies in which trust played a minor role. The manual searches should have decreased the occurrence of this problem for most of the recent research.

TABLE 1a.

Research Examining Main Effects of Trust on Workplace Behaviors and Outcomes

Study	Primary Thesis Related to Trust	Sig.	r
<i>Communication</i>			
Boss, 1980	Trust within group has (+) effect on openness in communication	p	.37 to .59
De Dreu et al., 1998	Trust between negotiators mediates the effects of social motives and punitive capability on info. exchange	ns	.20
Dirks, 1999	Trust within group has (+) effect on info. sharing in group	ns	.00
Kimmel et al., 1980	Trust between negotiators has (+) effect on info. exchange in dyad	ns	n/a
Mellinger, 1959	Trust has (+) effect on accuracy of info. shared with superior	p	n/a
O'Reilly & Roberts, 1974	Trust has (+) effect on amount of info. sent to superior	p	n/a
O'Reilly, 1978	Trust has (+) effect on amount of info sent to superior	p	.32 to .48
Roberts & O'Reilly, 1974	Trust has (+) effect on amount of info. sent to superior	ns	n/a
Smith & Barclay, 1985	Trust has (+) effect on openness in communication in inter-organizational relationship	p	.47
Zand, 1972	Trust has (+) effect on openness in communication in group	p	.41 to .63
<i>Organizational Citizenship Behavior (OCB)</i>			
Deluga	Trust building by leader has (+) effect on OCB	ns	n/a
Konovsky & Pugh, 1994	Trust in superior mediates the relationship between justice and OCB	p	.28
McAllister, 1995	Trust in co-worker has (+) effect on OCB	p	.19, .48
Pillai, Schrieseim, & Williams, 1999	Trust in leader mediates the relationship between leader behavior and OCB	p	.08, .31
Podaskoff et al., 1990	Trust in leader mediates the relationship between leader behavior and OCB	p	.15 to .30
Robinson, 1996	Trust in organization has (+) effect on OCB	p	.32

Notes: Sig = Statistically significant finding ($p < .05$); ns = non-significant effect; p = positive, significant effect; n = negative, significant effect; n/a = data not available; (+) = positive; (-) = negative; info. = information. Effect sizes reported as r (Pearson correlation coefficient). Those studies that examined several types of dependent variables are reported in the table multiple times.

TABLE 1a. (cont.)

Research Examining Main Effects of Trust on Workplace Behaviors and Outcomes

Study	Primary Thesis Related to Trust	Sig.	r
<i>Negotiation Processes</i>			
Kimmel et al., 1980	Trust between negotiators has (-) effect on distributive behavior	ns	n/a
Schurr & Ozanne, 1985	Trust between negotiation partners has (+) effect on integrative behavior and (-) effect on distributive behavior	ns	.00 to .02
<i>Conflict</i>			
De Reu et al., 1998.	Trust between negotiators has (-) effect on conflict	n	-.53
Porter & Lilly, 1996	Trust within group has (-) effect on conflict in team	n	-.46
Zaheer et al., 1997	Trust has (-) effect on conflict between partners in inter-organizational relationship	ns	-.13 to -.25
<i>Other Behaviors</i>			
Dirks, 1999	Trust within group has (+) effect on effort expended	ns	.21
Spreitzer & Mishra, 1999	Trust in employees by management has (+) effect on involvement of employees in decision making	p	.62
Robinson, 1996	Trust in organization mediates relationship between psychological contract violation and intent to remain with employer	p	.37
Tsai & Ghoshal, 1998	Trust has (+) effect on resource exchange between units	p	.90
<i>Individual Performance</i>			
Earley, 1986	Trust in supervisor mediates relationship between praise/criticism and job performance	p	.43
Oldham, 1975	Trust in leader has (+) effect on task performance	ns/p	.12 to .28
Rich, 1997	Trust in manager has (+) effect on sales performance	P	.30
Robinson, 1996	Trust in organization mediates relationship between psychological contract violation and job performance	P	.41

Notes: Sig = Statistically significant finding ($p < .05$); ns = non-significant effect; p = positive, significant effect; n = negative, significant effect; n/a = data not available; (+) = positive; (-) = negative; info. = information. Effect sizes reported as r (Pearson correlation coefficient). Those studies that examined several types of dependent variables are reported in the table multiple times.

TABLE 1a. (cont.)

Research Examining Main Effects of Trust on Workplace Behaviors and Outcomes

Study	Primary Thesis Related to Trust	Sig.	r
<i>Unit Performance</i>			
Davis et al., 2000	Trust in general manager has (+) effect on business unit performance	P	n/a
Dirks, 1999	Trust within group has (+) effect on group performance	ns	-.21 to .20
Dirks, in press	Trust in leader has (+) effect on group performance	P	.57
Friedlander, 1970	Trust within group has (+) effect on group performance	Ns	n/a
Kegan & Rubenstein, 1973	Trust within group has (+) effect on group performance	n/ns	-.31 to .30
Kimmel et al., 1980	Trust between negotiators has (+) effect on dyad performance	Ns	n/a
Klimoski & Karol, 1976	Trust in partners has (+) effect on group performance	p	n/a
Schurr & Ozanne, 1985	Trust between negotiators has (+) effect on dyad performance	ns/p	.16 to .23
Zaheer et al., 1997	Trust has (+) effect on inter-organizational relationship performance	Ns	.26 to .39

Notes: Sig = Statistically significant finding ($p < .05$); ns = non-significant effect; p = positive, significant effect; n = negative, significant effect; n/a = data not available; (+) = positive; (-) = negative; info. = information. Effect sizes reported as r (Pearson correlation coefficient). Those studies that examined several types of dependent variables are reported in the table multiple times.

TABLE 1b.

Research Examining Main Effects of Trust on Workplace Attitudes and Perceptions/Cognitions

Study	Primary Thesis Related to Trust	Sig.	r
<i>Satisfaction</i>			
Boss, 1978	Trust has (+) effect on sat. with meeting	p	.65
Brockner et al., 1997	Trust has (+) effect on sat./support for leader; relationship moderated by outcome favorability	p	.65
Driscoll, 1978	Trust has (+) effect on job sat.	p	.52
Muchinsky, 1977	Trust has (+) effect on job sat.	p	.40
O'Reilly & Roberts, 1974	Trust has (+) effect on sat. with communication	p	.29
Pillai, Schrieseim, & Williams, 1999	Trust in leader mediates the relationship between leader behavior and job sat.	p	.13, .32
Rich, 1997	Trust has (+) effect on job sat.	p	.43
Roberts & O'Reilly, 1974	Trust has (+) effect on sat. with communication	p	.39 to .43
Schurr & Ozanne, 1985	Trust has (+) effect on sat. with partner	p	.53
Smith & Barclay, 1997	Trust has (+) effect on sat. with IRP	p	.42
Ward, 1997	Trust has (+) effect on sat. with work group	p	.58
Zand, 1972	Trust has (+) effect on sat. with meeting	p	.63
<i>Other Attitudes</i>			
Brockner et al., 1997	Trust has (+) effect on commitment; relationship moderated by outcome favorability	ns/p	.05, .41
Friedman, 1993	Trust in negotiator has (+) effect on preference for integrative bargaining	p	n/a
Pillai et al., 1999	Trust in leader mediates the relationship between leader behavior and commitment	p	.35, .42

Notes: Sig = Statistically significant finding ($p < .05$); ns = non-significant effect; p = positive, significant effect; n = negative, significant effect; n/a = data not available; (+) = positive; (-) = negative; info. = information. Effect sizes reported as r (Pearson correlation coefficient). Those studies that examined several types of dependent variables are reported in the table multiple times.

TABLE 1b. (cont.)

Research Examining Main Effects of Trust on Workplace Attitudes and Perceptions/Cognitions

Study	Primary Thesis Related to Trust	Sig.	r
<i>Perceived Accuracy of Information</i>			
Benton et al., 1969	Trust in partner has (+) effect on perceived accuracy of info.	p	.34
Roberts & O'Reilly, 1974	Trust in leader has (+) effect on perceived accuracy of info.	p	.26 to .50
<i>Acceptance of Decision/Goal</i>			
Fulk, Brief, & Barr, 1985	Trust in supervisor has (+) effect on fairness/accuracy of performance appraisal	p	.47
Kim & Mauborgne, 1993	Trust in management has (+) effect on compliance with decision	p	.58
Oldham, 1975	Trust in supervisor has (+) effect on goal acceptance	ns/p	.09 to .32
Tyler & Degoey, 1996	Trust in supervisor has (+) effect on decision acceptance	p	n/a
<i>Other Cognitive/Perceptual Variables</i>			
Lind et al., 1997	Trust has (-) effect on procedural justice judgments	p	.37 to .61
Muchinsky, 1977	Trust has (+) effect on perceptions of organizational climate	p	.11 to .62
Nootebom, Berger, & Nooderhaven, 1997	Trust has (-) effect on perceived probability of loss	p	-.30
Robinson, 1996	Trust in organization has (-) effect on perceived psychological contract violation	n	-.18
Rousseau & Tijoriwala, 1999	Trust in management has effect on beliefs in reasons for organizational change and perceived legitimacy of changes.	p	.13 to .36
Scott, 1980	Trust in management has (+)effect on perceived value of management by objectives program	p	.50, .53

Notes: Sig = Statistically significant finding ($p < .05$); ns = non-significant effect; p = positive, significant effect; n = negative, significant effect; n/a = data not available; (+) = positive; (-) = negative; info. = information. Effect sizes reported as r (Pearson correlation coefficient). Those studies that examined several types of dependent variables are reported in the table multiple times.

TABLE 2.
Research Examining Trust as a Moderator

Study	Primary Thesis Related to Trust	Sig.
Benton et al., 1969	Trust in partner moderates the relationship between partner's past behavior and individual doubt of partner	s
Dirks, 1999	Trust within group moderates the relationship between motivation and group process and performance	s
Kimmel et al., 1980	Trust in partner moderates the relationship between aspiration level and negotiation outcomes	ns/s
O'Reilly & Anderson, 1980	Trust in supervisor moderates relationship between performance appraisal feedback and individual performance	ns/s
Read, 1962	Trust in supervisor moderates the relationship between mobility aspiration and information sharing	s
Robinson, 1996	Prior trust in employer moderates the relationship between unfulfilled promise and subsequent trust	s
Rousseau & Tijoriwala, 1999	Trust in management moderates the relationship between perceived reason for organization change and perceived legitimacy of change	ns/s
Schurr & Ozanne, 1985	Trust in partner moderates the relationship between bargaining toughness and negotiation processes and outcomes	s
Simons & Peterson, 2000	Trust within group moderates the relationship between task conflict and relationship conflict	s

Note: Sig = Statistically significant finding ($p < .05$); ns = non-significant effect; s = significant effect.