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Keywords

dimension, human resource, predictor, trust, labor, management, representative, work, relationship, communication, agreement, task, reliance, model, person

Comments

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Exploring the Trust Gap: Dimensions and Predictors of Trust Among Labor and Management Representatives

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Running Head: DIMENSIONS AND PREDICTORS OF TRUST

This paper has not undergone formal review or approval of the faculty of the ILR School. It is intended to make the results of Center research, conferences and projects available to others interested in human resource management in preliminary form to encourage discussion and suggestions.

February, 1992

Abstract

Existing literature on interpersonal trust in work relationships has largely focused on trust as an independent variable. This study examined trust as a dependent variable by investigating its dimensions and predictors. Four dimensions of trust were hypothesized: open communication, informal agreement, task reliance, and surveillance. A survey measure of willingness to trust was developed. Confirmatory factor analysis using data from 305 management representatives and 293 labor representatives showed the convergent and discriminant validity of the measure. Fishbein and Ajzen's theory of reasoned action served as the theoretical basis for a model of the predictors of trust. Regression analyses found that the past trustworthiness of the focal person and the attitude toward trusting the focal person were the most important predictors. Implications for research and practice are discussed.

Psychologists have long believed that trust influences interpersonal relationships in work settings. Earlier research investigated the relationships between trust and leadership effectiveness (Bennis & Nanus, 1985), work group dynamics (Zand, 1972), high involvement management (Lawler, 1986), and labor-management relations (Blake & Mouton, 1984). The purpose of the present study is to investigate two questions not addressed by existing research: (a) are there several forms (i.e., dimensions) that contribute to trust's total effect; and (b) what are the psychological factors that predict trust in a work relationship? Answers to these questions can contribute to our understanding by providing information on the trust construct and the factors that influence it.

Previous research on trust emphasized what Schwab (1980) calls "substantive validity." Substantive validity focuses on relationships among constructs, i.e., relationships among independent variables (e.g., trust) and dependent variables of immediate practical interest (e.g., communication). Thus, most research has concentrated solely on trust as an independent variable. Illustrative of the focus on substantive validity is research that investigated trust as a personality trait and its influence on, for example, perceptions of supervisory behavior (e.g., Kavanagh, 1975). Other research, however, shows that situational factors are relatively more important determinants of behavior when compared to trusting personality (Driscoll, 1978; see also Kimmel, 1974 and Schlenker, Helm, & Tedeschi, 1973 for parallel findings obtained in non-work settings). Substantive validity has also been the emphasis of research using survey measures of the perceived level of trust in work relationships (e.g., Butler, 1991; O'Reilly & Roberts, 1976; Roberts & O'Reilly, 1974; Zand, 1972). Bargaining behavior and group decision making are examples of outcome variables used in these studies. Overall, a nomological network of existing findings is strong on links between trust and its consequences

but weak on links between trust and its determinants.

Of the studies using a survey measure of trust in an organizational setting, a few have provided information on the construct validity of their scales (e.g., Butler, 1991, Kavanagh, 1975; Muchinsky, 1977; O'Reilly & Roberts, 1976; Roberts & O'Reilly, 1974). The findings are mixed. For example, Roberts and O'Reilly (1974) provided data on the psychometric properties of their measure of organizational communication, which included a trust subscale. Muchinsky's (1977) analysis of the Roberts and O'Reilly (1974) measure, however, indicated that their trust subscale was indistinguishable from other related constructs such as desire for interaction with the supervisor.

Regarding our first main research question concerning the possibility that trust can take different forms in a work relationship, the study seeks to explore the multidimensionality of the interpersonal trust construct. Four dimensions of trust were hypothesized and a questionnaire measure assessing these dimensions was developed. An understanding of the different dimensions of trust is important because one type of work relationship (e.g., supervisor - subordinate) may involve different forms of trust relative to others (e.g., salesperson - client). Because most prior research examined trust as an independent variable, our second aim was to study trust as a dependent variable. The literature revealed that several potential predictors of trust have yet to be studied. For example, attitudes are important determinants of work behaviors such as turnover and absenteeism, but how are attitudes related to trust? A second previously unexamined predictor is the influence of group or organizational norms. Wall (1975) investigated the effect of norms in a bargaining simulation but no field research has focused on the connection between norms and trust. In terms of a third predictor, although experimental work (Boyle & Bonacich, 1970) analyzed the link between the past trustworthiness or untrustworthiness of another party and subsequent trust in that

person, this variable has not been examined in work relationships. Finally, the study seeks to shed further light on the role of trusting personality by directly comparing its relative predictive utility to situationally-specific predictors (e.g., attitudes). The literature on the Fishbein-Ajzen (Ajzen & Fishbein, 1980; Fishbein, 1980) theory of reasoned action is used as the theoretical underpinning for combining these four variables into a conceptual model of the predictors of trust.

Conceptual Model And Hypotheses

Previous definitions of trust involve three principle concepts: (a) reliance (Giffin, 1967; Rotter, 1980), (b) dependence (Deutsch, 1962; Gambetta, 1988; Kee & Knox, 1970), and (c) risk (Deutsch, 1962; Gambetta, 1988; Kee & Knox, 1970; Koller, 1988). Integrating these three concepts, trust is conceptually defined as an individual's reliance on another person under conditions of dependence and risk. Reliance is behavior that allows one's fate to be determined by the focal person (i.e., the person about whom a decision to trust must be made). Reliance always involves some risk (Giffin, 1967) because of the possibility of the focal person's untrustworthy behavior. Dependence is a property of the social relationship between the individual and the focal person referring to the degree to which one's consequences are linked to the focal person's behavior. Risk is one's subjective perception about the degree of loss (March & Shapira, 1987) that would be experienced due to the focal person's untrustworthy behavior. Thus, under conditions of dependence and risk, one's willingness to put his or her fate in the hands of the focal person signifies the level of trust.

Although applied in the present study to a labor-management context, this general conceptual definition is relevant to the study of trust in any interpersonal work relationship. The emphasis is on one's willingness (i.e., decision) to engage in trust at the behavioral level. Previous definitions of trust used in studies based on the Prisoner's Dilemma game have been criticized for failing to make a

conceptual distinction between the behavioral aspect of trust and the psychological factors that determine it (see Kee & Knox, 1970; Kimmel, 1974). The present study's framework makes explicit this distinction.

Dimensions of Trust

From the organizational behavior and social psychology literature, along with qualitative data from interviews and preliminary surveys conducted for this study, four trust dimensions were hypothesized. These dimensions comprise a provisional list of the major forms of trust in work settings.

- 1. Open and honest communication with the focal person. People who trust the recipient of their communication will reveal more information, be more accurate when doing so, not filter and distort information, and be more willing to disclose important yet potentially self-damaging information (see O'Reilly & Roberts, 1976; Roberts & O'Reilly, 1974).
- 2. Entering an informal agreement with the focal person. By definition, an informal agreement or implied contract (see Rousseau, 1989) has no binding document stating the punitive sanctions or "violation costs" (Heckathorn, 1985) to be brought against one who fails to fulfill obligations. Thus, entering an informal agreement involves trust because the absence of a binding document can add to uncertainty about another party's future actions.
- 3. Relying on the focal person to accomplish a task. This trust dimension varies from one work relationship to another. Supervisors in organizations frequently trust subordinates by delegating tasks to them (Mintzberg, 1990). Labor and management representatives rely on each other to resolve grievances and to communicate to constituents about pending organizational changes. In collective bargaining, employees and top management entrust the task of negotiating contracts to representatives.
 - 4. Maintaining surveillance over the focal person. If one does not trust another

person, one will feel the need to keep careful watch over that person (Strickland, 1958). Alternatively, when trust is high, surveillance is unnecessary. The first three dimensions dealt with the presence of trust. The surveillance dimension addresses the absence of trust.

Predictors of trust

The Fishbein-Ajzen theory of reasoned action (Ajzen and Fishbein, 1980; Fishbein, 1980) explains a wide variety of human behaviors. It suggests that volitional behavior is a function of two primary causal factors: (a) one's attitude toward engaging in a particular behavior, and (b) subjective (perceived) normative pressures for engaging in the behavior. According to the model, these two primary factors may reinforce each other or act in opposition. Personality is hypothesized to influence behavioral intentions only indirectly through its effect on attitudes or subjective norms (Fishbein, 1980). Both experimental and field research found support (see Sheppard, Hartwick, & Warshaw, 1988) for the model's underlying causal sequence: From beliefs come attitudes and subjective norms - from these come behavioral intentions and, ultimately, observable behavior.

Using the Fishbein-Ajzen framework has two advantages. First, it avoids the necessity of developing a mini-theory of trust that is divorced from a general theory of behavior. The framework also provides a theoretical logic for hypothesizing relationships among attitudes, social norms, past behavior, and personality. (The Figure summarizes the hypothesized conceptual model.) Thus, an investigation can be made of the validity of our conceptualization of trust, i.e., does the model operate the way we think it should? Second, given the importance of the "expectation" concept in previous trust research (e.g., Boyle & Bonacich, 1970; Deutsch, 1962; Rotter, 1980), the Fishbein-Ajzen expectancy-based attitude model lends itself to the study of the attitudinal aspect of trust.

Insert the Figure about here

Ajzen and Fishbein (1977, p. 891) distinguish between an "attitude toward a target," (e.g., a person) which specifies the attitude object but not a particular action resulting from this attitude, and an "attitude toward an action," which specifies both the target and the action taken. Our study uses "attitude toward trusting" because trust is a particular class of behavior (cf., Fishbein, 1980) based on an attitude toward a specific focal person. Therefore, the attitude toward trusting is a function of (a) whether one expects the focal person to violate or uphold trust, and (b) how much benefit or gain (i.e., positive valence) will be incurred if trust is upheld versus how much injury or loss (i.e., negative valence) will be incurred if trust is violated. A positive attitude toward trusting exists when one expects the focal person to (a) behave in a trustworthy way resulting in positive (or avoidance of negative) consequences or (b) not behave in an untrustworthy way resulting in negative (or absence of positive) consequences. Therefore,

H1: The more positive one's attitude toward trusting the focal person, the greater the willingness to trust that person.

Norms refer to expectations about what one "ought to" or "should" do in a given role. Applying the Fishbein-Ajzen framework, subjective norms for trusting are comprised of (a) the belief that a referent thinks the individual should or should not trust the focal person, and (b) the individual's motivation to comply with that referent. So,

H2: The stronger one's subjective norms for trusting the focal person, the greater the willingness to trust that person.

The findings of Bentler and Speckart (1979) and Fredricks and Dossett (1983) suggest that the predictive power of the basic Fishbein-Ajzen framework can be

augmented by including a variable measuring whether past behavior has been associated with positive or negative consequences. One will experience positive consequences from the focal person's trustworthy behavior and negative consequences from the focal person's untrustworthy behavior. Thus,

H3: The greater the degree to which the focal person exhibited past trustworthiness, the greater the willingness to trust that person.

Bentler and Speckart's (1979) work suggests an additional possible indirect relationship between the focal person's past trustworthiness and willingness to trust, mediated by the attitude toward trusting. Because the attitude variable involves judgments (i.e., expectancies) about the focal person's future behavior, whether one's past trust in the focal person has been honored or betrayed should influence one's attitude.

H4: The effect of past trustworthiness of the focal person on willingness to trust that person will be mediated by the attitude toward trusting.

The most systematic research on trust as a personality trait was done by Rotter (1967, 1980). He defined trust as a "generalized expectancy held by an individual that the word, promise, oral or written statement of another individual or group can be relied on" (1980, p. 1). Using social learning theory, Rotter (1980) explained the developmental aspect of trust as the formation of expectancies through interactions with significant others (e.g., parents and friends). Although the Fishbein-Ajzen model would suggest that personality only indirectly influences trust, we investigated both direct and indirect effects of trusting personality. The direct effect was hypothesized as:

H5: The greater one's trusting personality, the greater the willingness to trust the focal person.

Additionally, given Rotter's view that trust is a generalized expectancy for trustworthy behavior by others, it is plausible to hypothesize that this should also

influence the expectancy-based attitude measure of trust in a specific focal person. That is, things being equal, if one generally has high trust in other people, the attitude toward trusting any particular person should be positively influenced. The opposite would also hold true (i.e., if one generally distrusts people, one will likely have a negative attitude toward trusting a specific person). Therefore,

H6: The effect of one's trusting personality on willingness to trust the focal person will be mediated by the attitude toward trusting.

Method

Sample and Procedure

Industrial relations research identifies labor-management trust as an organizational characteristic that determines a firm's competitive advantage (Kochan, Katz, & McKersie, 1986). Jacoby (1990) has suggested that in firms with high labor-management trust ". . . employers have less need for control devices and cumbersome governance structures that are costly and can interfere with their ability to adapt quickly to changing market circumstances" (p. 335). In contrast are organizations encumbered by rigid work rules, detailed job classifications and old style job-control unionism with its antagonistic labor-management philosophy. Often labor and management representatives from these types of organizations blame a labor-management "trust gap" as a major cause for organizational inefficiency.²

An important aspect of a labor-management relationship is trust between labor and management representatives (e.g., Walton & McKersie, 1965). Labor and management representatives serve important functions connected with information flow, intergroup conflict resolution, and problem solving (Blake & Mouton, 1984). The present study examines trust among labor and management representatives in public school districts. Public education is an appropriate organizational context in which to investigate labor-management trust because it is currently undergoing

widespread organizational change and restructuring (Rosow & Zager, 1989). Superintendents and teachers' union presidents are the primary management and labor representatives in school districts. Thus, the study used two samples, one comprised of school district superintendents and the other consisting of presidents of local teachers' unions. Because this study tests a psychological model of trust the unit of analysis was the individual. Matched dyads of superintendents and union presidents were not used.

Surveys were sent to 500 superintendents and 572 presidents of National Education Association (NEA) and American Federation of Teachers (AFT) local teachers' unions in a northeastern state. Surveys asked superintendents and presidents about interpersonal trust in their work relationships with each other. For the superintendents the focal person (i.e., the person about whom ratings were made) was the president of the local teachers' union in the school district. For the presidents the focal person was the school district superintendent. Accompanying each survey was a letter from the senior author and a letter from the highest ranking official in the recipient's professional organization (e.g., executive director of the state association of school administrators). Completed surveys were returned in postage-paid envelopes.

Of the 309 surveys returned by superintendents 305 were suitable for analysis (61% response rate). Two hundred and ninety-three of the 303 surveys returned by presidents were usable (51% response rate). In the superintendent sample 90 percent were male and 10 percent female and the average age was 50. In the union president sample 59 percent were male and 41 percent female and the average age was 43.

Survey Development and Measures

An important part of this research was the development of a survey measure of trust. To develop items, face-to-face and telephone interviews, along with open-

ended survey questions, were carried out with a total of 70 superintendents and teachers' union officials.

Willingness to trust the focal person. Preliminary research followed a two-step procedure. In step one, interviewees used an open-ended response format, to give examples of how they might trust their counterpart. The questions asked how the respondent would display trust at a behavioral level, not trust at the perceptual level (e.g., predictions about the other's future behavior). These responses provided 26 items that described specific trusting behaviors. In step two, separate groups of superintendents and presidents indicated how much trust in the focal person would be shown if they engaged in the specific trusting behavior described in an item. Responses were on a five-point scale (1 = shows no trust to 5 = shows complete trust). These responses resulted in the 20 items in the final versions of the surveys. Five items measured each of the four hypothesized trust dimensions. Because superintendents and presidents rely on each other in different ways, items measuring this dimension differed. Items assessing the other dimensions were identical; only the focal person or the organization differed.

The 20 items used in the final versions of the surveys asked respondents to indicate the likelihood (ranging from 1 = extremely unlikely to 7 = extremely likely) that they would engage in particular trusting behaviors with the focal person. The Appendix contains the items and the full response scale. Although analogous to measures of behavioral intention, the wording and response scale was in conformance with what Sheppard et al. (1988) refer to as behavioral "estimation" items. Thus, contrary to existing measures of trusting personality and perceived trust level, our items measured the "immediate determinant of behavior" (Fishbein, 1980, p. 70). Note, however, that reported willingness to engage in a trusting behavior does not insure that the behavior would occur in a real-life situation.

Attitude toward trusting the focal person. The work of superintendents and union presidents includes a number of recurring events such as collective bargaining negotiations, grievances, and teacher promotions. In the ensuing interactions, they can behave in either a trustworthy or untrustworthy manner. Over time, the focal person's trustworthiness or untrustworthiness forms the basis of an individual's attitude toward trusting that person (see Fazio, 1986).

Open-ended interview and survey questions were used to identify trust-related events typical of the superintendent-union president relationship. These methods of preliminary data collection are appropriate for developing measures of variables based on the Fishbein-Ajzen framework (Hackman & Anderson, 1968). Superintendent data revealed five events in which a union president could prove trustworthy or untrustworthy (e.g., telling teachers when they should or should not file a grievance). Union president data revealed five events in which a superintendent could prove trustworthy or untrustworthy (e.g., fairness in deciding teacher dismissals). These events were also used as a guide for developing items measuring willingness to rely on the focal person to carry out a task.

The five trust-related events were the basis for survey items measuring the attitude variable. In terms of the expectation component, for each event, respondents indicated the perceived likelihood of trustworthy behavior by the focal person. A separate item asked about the likelihood of untrustworthy behavior. A five-point response scale (Ilgen, Nebeker, & Pritchard, 1981) was used (0 = Not at all likely to 4 = Definitely likely).

Respondents were also asked to rate the desirability of the positive consequences associated with the focal person's trustworthy behavior. Other items asked about the undesirability of the negative consequences associated with the focal person's untrustworthy behavior. The magnitudes of positive and negative valences were based on desirability or undesirability (Dachler & Mobley, 1973) of a consequence.

A seven-point response scale was used (-3 = extremely undesirable) to 3 = extremely desirable).

An example illustrates the combination of these two components. For superintendents, an expectation item concerning trustworthy president behavior was, "How likely is it that the president would try to persuade the membership of the local teachers' union to give support to a newly initiated cooperative program between teachers and school administrators?" The corresponding positive valence item stated, "A newly initiated cooperative program between teachers and school administrators is supported by the membership of the teachers' local." Each of the five trust-related instances had one pair of expectation-valence items for both trustworthy behavior and untrustworthy behavior by the focal person. Thus, the mean of the 10 products of the items measuring expectations and valences was the index of a respondent's "overall attitude" (see Ajzen & Fishbein, 1980) toward trusting the focal person.

Norms for trusting the focal person. Building on Ajzen and Fishbein (1980), subjective norms for trusting included: (a) a respondent's belief that a salient referent thinks the individual should or should not trust the focal person and (b) the respondent's motivation to comply with that referent. Open-ended interviews provided salient referents for both superintendents and presidents. The resulting surveys used the six referents most frequently mentioned by superintendents (e.g., the state school administrators professional association) and presidents (e.g., members of the local teachers' union). A five-point response scale measured whether referents think the respondent should trust the focal person (1 = should not to 5 = should). A five-point response scale measured motivation to comply with the referent (1 = I want to do what the referent thinks I should do). Thus, the norms variable was the mean of the six products of the items measuring normative beliefs and

motivations to comply (Ajzen & Fishbein, 1980).

Past trustworthiness of the focal person. Four items asked about the focal person's past trustworthiness. Each item referred to a different dimension of trust. For example, the superintendent survey stated: "In terms of communicating with (i. e., receiving or giving information) the president, when I have trusted him/her in the past . . ." A five-point scale specified the frequency (Bentler & Speckart, 1979, p. 457) of past trustworthy behavior (1 = he/she has never been trustworthy to 5 = he/she has always been trustworthy). The mean of these items measured the degree to which the respondent's past trust was met with trustworthy acts by the focal person. Coefficient alphas of these scales were .93 for superintendents and .89 for presidents.

Trusting personality. Rotter's (1967) interpersonal trust scale (ITS) measures the extent to which an individual has a trusting personality. It is made up of 25 trust items (12 negatively worded) and 15 "filler" items. The psychometric properties of the ITS are well researched (see Chun & Campbell, 1974, for a discussion). The present study used a short form of the ITS (Chun & Campbell, 1974). The short form includes the 12 items (eight negatively worded) that best retained the factorial structure of the ITS. Because superintendents and teachers union presidents are sensitive to proper grammar, three items were corrected slightly. Chun and Campbell's (1974) response scale was used (1 = Strongly disagree to 5 = Strongly agree). The mean of the respondents' answers measured trusting personality. Coefficient alphas were .80 for superintendents and .74 for presidents.

Covariates (control variables). Data on several covariates were gathered to isolate the effect of the four main predictor variables. To eliminate the possible influence of respondent sex and age, these variables were used as covariates. Another covariate was the number of years the respondent had worked with the

focal person. This is important because the dynamics between a superintendent and local union president working together for a month, are likely to differ from the dynamics between individuals working together for 10 years. The final covariate was the number of years the respondent expected to continue working with the focal person in their respective roles. For example, people who expect to work with each other for the next four years may strive to build a trusting work relationship. Conversely, a respondent working with a "lame duck" counterpart may have little incentive to build trust.

Results

Confirmatory Factor Analysis

We used LISREL 7 (Joreskog & Sorbom, 1989) to perform a confirmatory factor analysis to determine if the measures adequately represent the hypothesized constructs (Long, 1983). Confirmatory factor analysis is well suited to investigate construct validity. It allows direct investigation of the degree to which specific items jointly load on their hypothesized constructs (i.e., convergent validity), and the degree to which purportedly different constructs can be distinguished from one another (i.e., discriminant validity) (Bollen, 1989; Long, 1983).

Sample size is an important consideration in confirmatory factor analysis because the number of estimated parameters relative to sample size determines convergence, standard errors, and model fit (Idaszak, Bottom, & Drasgow, 1988). Although there are no strict guidelines for minimum sample sizes (Anderson & Gerbing, 1988), Boomsma (1987) suggested that at least 200 observations are generally sufficient. Further, Bentler (1985) suggested that a sample size to parameter ratio of 5 or more is sufficient to achieve reliable estimates in maximum likelihood estimation. Because the smallest sample used in the present LISREL analyses was 293 and the smallest sample size to estimated parameter ratio was 6.23, the sample sizes were considered adequate (Brooke, Russell, & Price, 1988).

In confirmatory factor analysis it is essential to examine first the overall fit of the model. If a model does not fit the data acceptably, the hypothesis that the model accurately represents the data is rejected. In such a case, interpretation of specific parameter estimates in the model may be inappropriate (James, Mulaik, & Brett, 1982). The most widely used measure of fit is the chi-square (χ^2) statistic. Perhaps the most popular use of χ^2 is to examine the ratio of χ^2 relative to the degrees of freedom (df), because levels of χ^2 depend on the sample size (La Du & Tanaka, 1989; Marsh, Balla, & McDonald, 1988). Chi-square to degrees of freedom ratios of 2:1 (Hertig, 1985), 3:1 (Carmines & McIver, 1981), or even 5:1 (Marsh & Hocevar, 1985) have been claimed to indicate an acceptable fit. Other popular fit statistics include the goodness-of-fit index, adjusted goodness-of-fit index, root-mean-square residual, and coefficient of determination (\mathbb{R}^2) . These will be reported in this study. Values for these fit indices represent rules of thumb for judging the adequacy of the fit of a hypothetical model to empirical data. Values judged acceptable are derived from social conventions because the distributions of most of the statistics are unknown and most of the statistics are affected by sample size. Values of at least .80 for the adjusted goodness-of-fit index and at most .10 for the root-mean-square-residual, however, represent limits normally used to claim acceptable levels of fit with complex or restrictive models (Judge & Hulin, in press; Rock, Bennett, & Jirele, 1988; Vance, MacCallum, Coovert, & Hedge, 1988). For informational purposes, values of the normed fit index (Bentler & Bonnett, 1980) and parsimonious fit index (James et al., 1982) also are reported, although Anderson and Gerbing (1988) and La Du and Tanaka (1989) urge considerable caution in interpreting two these indices.

Correlations served as input for the LISREL model. (Using covariances yielded equivalent results.) The correlation tables are not reported but are available upon

request. Preliminary analyses (principle components analysis with squared multiple correlations in the diagonal of the correlation matrix) suggested that Item 9 was ambiguously worded. It was intended to measure Surveillance, but because of its wording it loaded strongly on the Task Reliance dimension for both samples. This item was omitted from the confirmatory factor analyses.

Table 1 specifies the fit statistics for both management and labor samples. All statistics indicate that the hypothesized measurement model fits the data acceptably for both samples. Thus, the measurement model provided an adequate fit to the data. Table 1 also reports the normed and parsimonious fit indices, indicating the improvement in fit of the hypothesized model over a null (no factor) model, although again caution is warranted in interpreting these indices. Table 2 provides the parameter estimates (factor loadings) of the items on their respective constructs for management and labor representatives. For management representatives all factor loadings were relatively strong (average loading = .588) and highly significant (p < .001). As with the management sample, all factor loadings for labor representatives were relatively strong (average loading = .603) and highly significant (p < .001). Taken together, these results support the hypothesis that the specific items converge on their hypothesized constructs (convergent validity).

Insert Tables 1 and 2 about here

LISREL allows a multi-sample analysis where a common parameter between two or more samples can be constrained to be equal. If imposing that constraint results in a significant decrease in fit (as measured by an increase in χ^2), the coefficients are significantly different between the two samples. Some of the factor loadings were significantly different between samples. Four of the five loadings (items 1, 8, 12, and 18; see Table 2) on the Communication factor were significantly different. Three of the five loadings (items 4, 11, and 19) on the Task

Reliance factor were significantly different. The loadings on this dimension, however, were not expected to be identical because the items differed in content for the two samples. None of the loadings on the Informal Agreement factor or the Surveillance factor differed significantly. Overall, the loadings were relatively alike between the groups (12 of the 19 loadings were not significantly different), suggesting that the factor structure was similar for management and labor representatives.

Table 3 provides LISREL estimates of the correlations between the trust dimensions for both samples. The estimates reflect the correlations between the constructs and are corrected for measurement error. All correlations were in the expected direction. For the Communication, Informal Agreement, and Task Reliance dimensions, high positive levels indicated a high level of trust. Conversely, high Surveillance implies an absence of trust and, as expected, it was negatively related to the other three dimensions.

Insert Table 3 about here

Some correlations between the trust dimensions differed between samples. Again using the multi-sample analysis in LISREL, two correlations differed significantly between the two samples. First, the Surveillance and Task Reliance correlation differed significantly between management (-.135) and labor representative (-.628) samples. Second, the Surveillance and Informal Agreement correlation differed significantly between management (-.297) and labor (-.529) samples.

The above fit statistics and parameter estimates evidenced the convergent validity of the items measuring the four dimensions of trust but they do not address discriminant validity. Are the measures capable of distinguishing the trust

constructs? This question is particularly relevant given the relatively high correlations between the dimensions of trust.

Discriminant validity was first investigated by comparing the fit of the hypothesized model to a model with one general trust construct. If the measures do not have adequate discriminant validity, the fit of a single factor model will not be significantly worse than the hypothesized four factor model (see Table 1). In such a case, a single factor model would do an acceptable job of describing the data. This would refute the hypothesized multidimensionality of trust.

The single factor model provided a relatively poor fit to the data for labor representatives ($\chi^2 = 593.75$ with 149 degrees of freedom) and for management representatives ($\chi^2 = 745.35$ with 149 degrees of freedom). This fit was significantly worse than the hypothesized model reported in Table 1 for the management representatives (increase in $\chi^2 = 438.44$ with 6 degrees of freedom, p < .001) and labor representatives (increase in $\chi^2 = 243.92$ with 6 degrees of freedom, p < .001). Further, a random ordering of the measures loading on the four dimensions also yielded a poor fit to the data (e.g., $\chi^2 = 723.22$ with 143 degrees of freedom). Even forming the two most highly related constructs (Task Reliance and Informal Agreement) into one dimension resulted in a significant decrease in fit for both samples (e.g., increase in $\chi^2 = 58.38$ with 3 degrees of freedom, p < .001). The evidence suggests the factors were valid; the measures converged on their respective constructs yet were relatively distinct.

In order to ascertain if the dimensions of trust formed an overall trust construct, second-order factor analysis was conducted. While evidence for the discriminant validity of the dimensions was provided above, second order factor analysis was used to determine if there were sufficient relationships among the factors to extract a higher order factor (Joreskog & Sorbom, 1989). For example, it is possible to form an overall job satisfaction construct from facets of the Job Descriptive Index

(Smith, Kendall, & Hulin, 1969). This does not mean that facets of job satisfaction are indiscriminate; it does suggest that together the facets comprise overall job satisfaction (Judge & Hulin, in press). Thus, while the four dimensions of trust are distinct, together they may constitute an overall trust construct.

The results of the second order factor analysis indicated that the dimensions did comprise a general trust construct. Overall, the second order factor fit the data acceptably for the labor representatives ($\chi^2/df = 2.76$; goodness of fit index = .86; adjusted goodness of fit index = .84; root-mean-square residual = .08), although somewhat less well for the management representatives ($\chi^2/df = 3.49$; goodness of fit index = .83; adjusted goodness of fit index = .80; root-mean-square residual = .10). All trust dimensions significantly loaded on the overall construct. Therefore, it was possible to form an overall willingness to trust construct from the four dimensions.

Based on the second-order factor analysis results, a total 19-item trust measure was formed by summing the means of the four trust subscales, with each subscale weighted by its standardized factor weight. This measure will be used as the dependent variable to test the effects of the hypothesized predictor variables. The total measures of willingness to trust were created as follows:

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Management representatives: Trust = (.896 × mean of Communication items) + (.824 × mean of Informal Agreement items) + (.614 × mean of Task Reliance items) - (.485 × mean of Surveillance items) (α = .84.).

Labor representatives: Trust = (.628 × mean of Communication items) + (.750 × mean of Informal Agreement items) + (.827 × mean of Task Reliance items) - (.764 × mean of Surveillance items) (α = .86.).
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Predictors of Trust

Ordinary least squares regression tested the associations among the total measure of willingness to trust and the four predictor variables. No violations of

assumptions underlying least squares regression (Darlington, 1990) were found. Table 4 contains descriptive statistics and correlations for variables used in the regressions. Table 5 contains the regression analyses. The prediction equations results were similar for the two samples. The set of independent variables significantly predicted willingness to trust for management representatives (F [8, [284] = 33.93, p < .0001) and for labor representatives (F [8, 276] = 50.38, p < .0001). The results for both samples showed willingness to trust to be significantly associated with the respondents' attitude toward trusting and the past trustworthiness of the focal person. Thus, Hypotheses 1 and 3 were supported. Comparing t values within samples (Darlington, 1990), management representatives' willingness to trust was predicted roughly equally by their attitude toward trusting the labor representative and the past trustworthiness of the labor representative. For labor representatives, however, the importance of the past trustworthiness of the management representative was almost twice as great as the attitude variable. Normative considerations also influenced labor representatives. This variable was not significant for management representatives. Consequently, Hypothesis 2 received support in the labor sample but not in the management sample. Personality had a direct effect for management representatives. Hypothesis 5, then, was supported for this sample only.

Insert Tables 4 and 5 about here

Although the existence of multicollinearity is a less serious problem than commonly believed (Darlington, 1990) tolerance values were examined in the regression output. Tolerance values approaching 1.0 indicate statistical independence between a predictor variable and the other predictors in the regression equation. For both samples the average tolerance for the predictors was .81. "Condition numbers" (see Montgomery & Peck, 1982) also provided

information about possible multicollinearity. The largest condition number in either sample was 40, well below the prescribed rule of thumb of 100 or less (Montgomery & Peck, 1982).

Hypothesis 4 referred to an indirect effect between the past trustworthiness of the focal person and a respondent's willingness to trust, mediated by the attitude variable. (i.e., past trustworthiness -> attitude toward trusting -> willingness to trust). This effect was tested by running two regressions - one using past trustworthiness to predict the attitudinal variable - and the second predicting willingness to trust from both past trustworthiness and attitude. If both predictors are significant in the second regression, assuming significance was found in the first, the attitude variable "partly mediates" (Darlington, 1990) the relationship between past trustworthiness and willingness to trust. This hypothesized indirect effect was found for both samples. Regressions showed that the past trustworthiness of the focal person predicted respondents' attitude toward trusting (management representatives: $\underline{b} = 1.82$, $\underline{t} = 16.14$, $\underline{p} < .0001$; labor representatives: $\underline{b} = 1.76$, $\underline{t} = 16.50$, $\underline{p} < .0001$). Subsequent regressions revealed that the attitude variable partly mediated the relationship between past trustworthiness and willingness to trust as shown by significant coefficients for both past trustworthiness (management representatives: $\underline{b} = 1.16$, $\underline{t} = 5.96$, $\underline{p} <$.0001; labor representatives: $\underline{b} = 1.70$, $\underline{t} = 9.75$, $\underline{p} < .0001$) and the attitude toward trusting (management representatives: $\underline{b} = .44$, $\underline{t} = 5.96$, $\underline{p} < .0001$; labor representatives: b = .35, t = 5.07, p < .0001). Thus, Hypothesis 4 was supported for both samples.

Hypothesis 6 posited an indirect relationship between the respondent's personality and willingness to trust, mediated by the attitude toward trusting the focal person (i.e., trusting personality -> attitude toward trusting -> willingness to trust). As with the test of Hypothesis 4, two sets of regressions were run. For

management representatives, personality was nearly significant (at the p < .05 level) as a predictor of the attitude variable (b = .39, t = 1.90, p < .0579). For labor representatives, personality significantly predicted the attitude variable (b = .66, t = 2.71, p < .01). For management representatives, a subsequent regression showed that the attitude variable partly mediated the relationship between personality and willingness to trust as shown by significant coefficients for both personality (b = .53, t = 2.73, p < .01) and the attitude toward trusting (b = .72, t = 12.82, p < .0001). For labor representatives, personality was only marginally significant (b = .40, t = 1.69, p < .10) although the attitude toward trusting was highly significant (b = .84, t = 14.58, p < .0001) indicating that for this sample virtually all the impact of personality on willingness to trust was mediated by the attitude variable. Therefore, the hypothesized indirect effect was found for both samples although it was much stronger in the labor sample.

Discussion

Schwab (1980) exhorts researchers to consider construct validity before undertaking substantive research. Our study adopted this strategy. Additionally, our work addressed Gordon and Nurick's (1981) call for psychological research that directly investigates labor-management relations.

With regard to the dimensionality of the trust construct, confirmatory factor analysis found support for the view that the measure of willingness to trust was multidimensional and that the factors obtained corresponded to the hypothesized four dimensions. Fit indices for the hypothesized measurement model, along with item loadings on the four dimensions, were similar for both samples. This provided evidence of convergent validity of the dimensions. Alternative measurement models each showed a poor fit to the data relative to the hypothesized four factor model. These findings indicated the existence of discriminant validity; the four dimensions corresponded to distinct aspects of the trust construct.

The multidimensionality of trust sensitizes us to the idea that trust involves both what people are willing to do (openly and accurately communicate, enter informal agreements, and rely on each other to carry out tasks) and what they need not do (maintain surveillance). Also, too much trust (e.g., giving a critical task to an inexperienced subordinate) or too little trust (e.g., maintaining constant surveillance over a colleague) may be dysfunctional. That is, extremely high trust may result in bitterness if a person fails to live up to unrealistic expectations. Alternatively, extremely low trust levels can induce a downward spiral of hostility, greater surveillance, and overdependence on coercive influence methods. Barnes' (1981) argues for a balanced approach or "tentative trust:" Trust in small ways first, observe the focal person's behavior, and then behave in a way that is appropriate with that person's trustworthiness or untrustworthiness.

Some Communication item loadings differed across the two samples. The "power asymmetry" between labor and management representatives may explain different responses to these items. In private or public sector unionized organizations, top management's authority and access to resources makes it more powerful than the local union leadership. Because of their weaker position, labor representatives may be more guarded in communicating information that could be used against them by a more powerful management representative.

Correlations among dimensions of trust were statistically significant and in the expected direction for both samples. The magnitudes of some of these correlations, however, differed across samples. Significant differences were found between Surveillance and Task Reliance and Surveillance and Informal Agreement. Apparently, labor and management representatives view surveillance differently. For management representatives, relative to labor representatives, Informal Agreement and Task Reliance values were associated with more Surveillance. It may be harder for managers to give up control. Although the present data do not

allow a definitive interpretation, it is possible to speculate that administrative training may have taught managers to use trust as a relationship-building tool while maintaining control through surveillance. For labor representatives, on the other hand, Informal Agreement and Task Reliance scores were associated with less Surveillance. Although slightly more hesitant to trust on average, when labor leaders do trust they seem to be more willing to abandon surveillance.

The other major thrust of the study was to explore the predictors of trust. Our findings generally supported the hypothesized relationships between the predictors and trust. These results, therefore, expand the current nomological network of interpersonal trust in organizations by showing how trust relates to attitudes, social norms, past behavior and personality.

Some limitations of the study should be mentioned. First, the variables were measured from survey items and therefore common method variance is a concern. However, although the decision to engage in a behavior and cognitions leading up to that decision are related, they have been shown to be theoretically (Ajzen & Fishbein, 1980) and empirically (Bentler & Speckart, 1979; Fredricks & Dossett, 1983; Sheppard, Hartwick, & Warshaw, 1988) distinct. Future research is well advised to use additional methods (e.g., experimental manipulations of variables or observational data from coworkers). Second, the study tested an intrapsychic process model with cross-sectional survey data. Although the present approach was justified by the exploratory nature of this study, any conclusions refer only to how the management and labor representatives responded on average. Future research should employ within-subjects and longitudinal designs. Lastly, social desirability is a concern when studying a topic such as trust. During the study's preliminary research, however, interviewees were remarkably candid in stating their opinions. They treated the interview as an opportunity for catharsis about their (good or bad) work relationship with the focal person. These interview data

suggest that the survey respondents were candid as well. It seems unlikely that our results were a function of social desirability.

Attitude toward trusting was a significant predictor of willingness to trust for both samples. Evidently, in deciding whether to trust, respondents took into account the combined influence of expectations about the focal person's behavior and valences of the possible consequences resulting from the focal person's behavior. Thus, one strategy for helping to close "trust gaps" between labor and management representatives would be to focus on changing perceptions of one or both of the attitude components. For example, it would be possible to train people how to build trust by instructing individuals to develop the personal attributes that are associated with trustworthiness. Butler's (1991) work is relevant here because he investigated the perceived characteristics of a person (e.g., integrity, consistency) that are associated with trust. Additionally, in terms of valences, steps could be taken to reduce the risk of trusting. For example, trust-related risk for labor and management representatives could be reduced by insuring that any new union-management collaboration program is carried out within the parameters of a collective bargaining contract. The contract can provide a "safety net" helping to guard both parties from the negative effects of possible opportunistic behavior during the implementation of the new program.

The importance of the attitude variable also has implications for basic social psychological research on attitude-behavior relations. As Fazio (1986) pointed out, in the 1960s and 1970s social psychologists began to question the previously assumed direct correspondence of attitudes to behavior. Essentially, the concern centered on the "is" question; "is there a relationship between attitudes and behavior?" More recently, however, theory and research focused on the "when" question. Rather than asking whether attitudes predict behavior, researchers asked "under what conditions do attitudes held by what kinds of individuals predict what

kinds of behavior?" (Fazio, 1986, p. 206; see also Ajzen & Fishbein, 1977). One variable believed to affect the attitude-behavior relationship is the degree to which an individual had direct exposure to the attitude object. Theoretically, as direct exposure increases, the cognitive accessibility of the attitude strengthens the attitude-behavior association. On average, the respondents in our study had substantial exposure the focal person (i.e., the attitude object). Enhanced attitude accessibility due to extended direct exposure to the focal person may heighten the relevance of the attitude variable as a predictor. Experimental simulations of labor-management relations that use unacquainted college students are unable to tap this important aspect of actual work relationships (Farr, 1981).

The relatively weak association between the norms variable and willingness to trust for both samples may be due to respondents perceiving themselves as strong leaders. From interview data, both groups of individuals clearly saw themselves as decision makers not easily swayed by the influence of others. Local union presidents, however, are elected officials and therefore may be more prone to consider the needs and desires of a well-defined constituency. This could explain why the norms variable reached statistical significance for them. These results complement Wall's (1975) laboratory bargaining simulation findings on the influence of constituents; in real organizations constituents may be most likely to affect on their representative in situations where an institutionalized mechanism exists (e.g., union elections) for control over the representative.

The focal person's past trustworthiness was an important variable for both groups and especially so for labor representatives. Table 4 showed that, on average, labor representatives rated management representatives as less trustworthy compared to management representatives ratings of labor representatives. It is interesting to note the negative regression weight for length of time the labor representative had worked with the management representative.

This finding may reflect untrustworthiness, over time, on the part of the average management representative. Future research using labor and management representatives from other industries can test the generalizability of this finding. With reference to Hypothesis 4, an indirect relationship between the past trustworthiness of the focal person and willingness to trust that person, mediated by the attitudinal variable, was found for both samples. This means that, besides influencing willingness to trust directly, the reinforcing or punishing consequences of one's past trust in the focal person also affected one's attitude toward trusting.

Consistent with previous research (Driscoll, 1978), trusting personality had a weaker influence on willingness to trust than target-specific predictors (e.g., the attitudinal variable). The personality variable had significant direct and indirect effects on willingness to trust for management representatives although the attitude variable mediated virtually all of personality's influence for labor representatives. Consistent results across samples concerning the indirect effect suggest that personality may be a weak direct predictor of trust because attitudes mediate the impact of personality. That is, trusting personality, comprised of generalized expectancies (Rotter, 1980) for trustworthy behavior by others, may exert its primary effect on willingness to trust by influencing target-specific expectancies assessed by the attitude toward trusting the focal person.

Finally, the study applied the Fishbein-Ajzen framework. Generally, our results paralleled other studies showing the overall predictive utility of their model. The logic of the Fishbein-Ajzen model was a useful basis for generating hypotheses relating to the relationships among predictor variables. The effect of the attitude variable and the indirect relationship between personality and willingness to trust mediated by the attitude variable was consistent with their model. Conversely, the basis for the variable measuring past trustworthiness of the focal person was Bentler and Speckart's (1979) work, not the original Fishbein-

Ajzen model. This variable was the strongest single influence on willingness to trust. Overall, the generality of the Fishbein-Ajzen model proved to be a solid starting point yet future work on the predictors of trust should expand this basic paradigm.

References

- Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. <u>Psychological Bulletin</u>, 84, 888-918.
- Ajzen, I., & Fishbein, M. (1980). <u>Understanding attitudes and predicting social</u> behavior. Englewood Cliffs, NJ: Prentice-Hall.
- Anderson, J.C., & Gerbing, D.W. (1988). Structural equation modeling in practice:

 A review and recommended two-step approach. <u>Psychological Bulletin</u>, <u>103</u>,
 411-423.
- Barnes, L.B. (1981). Managing the paradox of organizational trust. <u>Harvard</u>
 <u>Business Review</u>, 59, 107-116.
- Bennis, W., & Nanus, B. (1985). <u>Leaders: The strategies for taking charge</u>. New York: Harper & Row.
- Bentler, P.M. (1985). Theory and implementation of EQS: A structural equations program. Los Angeles: BMDP Statistical Software.
- Bentler, P.M., & Bonnett, D.G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. <u>Psychological Bulletin</u>, 88, 588-606.
- Bentler, P. M., & Speckart, G. (1979). Models of attitude-behavior relations.

 <u>Psychological Review</u>, 86, 452-464.
- Blake, R., & Mouton, J. (1984). Solving costly organizational conflicts: Achieving intergroup trust, cooperation, and teamwork. San Francisco: Jossey-Bass.
- Bollen, K.A. (1989). Structural equations with latent variables. New York: Wiley.
- Boomsma, A. (1987). The robustness of maximum likelihood estimation in structural equation models. In P. Cuttance & R. Ecob (Eds.), Structural modeling by example (pp. 160-188). New York: Cambridge University Press.
- Boyle, R., & Bonacich, P. (1970). The development of trust and mistrust in mixed-motive games. Sociometry, 33, 123-139.
- Brooke, P.P., Russell, D.W., & Price, J.L. (1988). Discriminant validation of measures of job satisfaction, job involvement, and organizational commitment.

 <u>Journal of Applied Psychology</u>, 73, 139-145.

- Butler, J.K. (1991). Toward understanding and measuring conditions of trust:

 Evolution of a conditions of trust inventory. <u>Journal of Management</u>, <u>17</u>, 643-663.
- Carmines, E., & McIver, J. (1981). Analyzing models with unobserved variables:

 Analysis of covariance structures. In G. Bohrnstedt & E. Borgotta (Eds.), Social

 measurement: Current issues (pp. 65-115). Beverly Hills: Sage.
- Chun, K., & Campbell, J. (1974). Dimensionality of the Rotter interpersonal trust scale. <u>Psychological Reports</u>, 35, 1059-1070.
- Dachler, H.P., & Mobley, W. (1973). Construct validation of an instrumentality-expectancy-task-goal model of work motivation: Some theoretical boundary conditions [Monograph]. Journal of Applied Psychology, 58, 397-418.
- Darlington, R.B. (1990). Regression and linear models. New York: McGraw-Hill.
- Deutsch, M. (1962). Cooperation and trust: Some theoretical notes. In M. Jones (Ed.), Nebraska symposium on motivation (pp. 275-320). Lincoln, NE: University of Nebraska Press.
- Driscoll, J. (1978). Trust and participation in organizational decision making as predictors of satisfaction. Academy of Management Journal, 21, 44-56.
- Farr, R.M. (1981). The relevance of experimental gaming studies to industrial relations. In G. Stephenson and C. Brotherton (Eds.), <u>Industrial relations: A social psychological approach</u> (pp. 95-114). Chichester: Wiley.
- Fazio, R. (1986). How do attitudes guide behavior? In R. Sorrentino & E. Higgins (Eds.), Handbook of motivation and cognition (pp. 204-243). New York:Guilford.
- Fishbein, M. (1980). A theory of reasoned action: Some applications and implications. In H. Howe (Ed.), Nebraska symposium on motivation (Vol. 27, pp. 65-116). Lincoln: University of Nebraska Press.
- Fredricks, A.J., & Dossett, D.L. (1983). Attitude-behavior relations: A comparison of the Fishbein-Ajzen and Bentler-Speckart models. <u>Journal of Personality and Social Psychology</u>, 45, 501-512.
- Gambetta, D. (1988). Can we trust trust? In D. Gambetta (Ed.), <u>Trust: Making and breaking cooperative relations</u> (pp. 213-237). Oxford: Blackwell.

- Giffin, K. (1967). The contribution of studies of source credibility to a theory of interpersonal trust in the communication process. <u>Psychological Bulletin</u>, <u>68</u>, 104-120.
- Gordon, M.E., & Nurick, A.J., (1981). Psychological approaches to the study of unions and union-management relations. <u>Psychological Bulletin</u>, <u>90</u>, 293-306.
- Hackman, J.R., & Anderson, L.R. (1968). The strength, relevance, and source of beliefs about an object in Fishbein's attitude theory. <u>Journal of Social</u>
 <u>Psychology</u>, 76, 55-67.
- Heckathorn, D.D. (1985). Power and trust in social exchange. In E. J. Lawler (Ed.), Advances in group processes, (Vol. 2, pp. 143-167). Greenwich, CT: JAI.
- Hertig, J.R. (1985). Multiple indicator models using LISREL. In H.M. Blalock (Ed.), Causal models in the social sciences, (2nd ed., pp. 263-319). New York: Aldine.
- Idaszak, J.R., Bottom, W.P., & Drasgow, F. (1988). A test of the measurement equivalence of revised Job Diagnostic Survey: Past problems and current solutions. <u>Journal of Applied Psychology</u>, <u>73</u>, 647-656.
- Ilgen, D.R., Nebeker, D.M., & Pritchard, R.D. (1981). Expectancy theory measures:

 An empirical comparison in an experimental simulation. Organizational

 Behavior and Human Performance, 28, 189-223.
- Jacoby, S. (1990). The new Institutionalism: What can it learn from the old?

 Industrial Relations, 29, 316-359.
- James, L.R., Mulaik, S.A., & Brett, J.M. (1982). <u>Causal analysis: Assumptions, models, and data</u>. Beverly Hills: Sage.
- Joreskog, K.G., & Sorbom, D. (1989). <u>LISREL 7: A guide to the program and applications</u>. Chicago: SPSS Inc.
- Judge, T.A., & Hulin, C.L. (in press). Job satisfaction as a reflection of disposition:

 A multiple source causal analysis. Organizational Behavior and Human Decision

 Processes.

- Kavanagh, M.J. (1975). Expected supervisory behavior, interpersonal trust and environmental preferences: Some relationships based on a dyadic model of leadership. Organizational Behavior and Human Performance, 13, 17-30.
- Kee, H., & Knox, R. (1970). Conceptual and methodological considerations in the study of trust. Journal of Conflict Resolution, 14, 357-366.
- Kimmel, M. (1974). On distinguishing interpersonal trust from cooperative responding in the Prisoner's Dilemma game. Unpublished doctoral dissertation, Wayne State University.
- Kochan, T., Katz, H., & McKersie, R. (1986). The transformation of American industrial relations. New York: Basic.
- Koller, M. (1988). Risk as a determinant of trust. <u>Basic and Applied Social</u>
 <u>Psychology</u>, 9, 265-276.
- La Du, T.J., & Tanaka, J.S. (1989). Influence of sample size, estimation method, and model specification on goodness-of-fit assessments in structural equation models.

 Journal of Applied Psychology, 74, 625-635.
- Lawler, E.E. (1986). <u>High involvement management: Participative strategies for improving organizational performance</u>. San Francisco: Jossey-Bass.
- Long, J.S. (1983). <u>Covariance structure models: An introduction to LISREL</u>. Beverly Hills: Sage.
- March, J.G., & Shapira, Z. (1987). Managerial perspectives on risk and risk taking.

 Management Science, 33, 1404-1418.
- Marsh, H.W., Balla, J.R., & McDonald, R.P. (1988). Goodness-of-fit indexes in confirmatory factor analysis: The effect of sample size. <u>Psychological Bulletin</u>, 103, 391-410.
- Marsh, H.W., & Hocevar, D. (1985). The application of confirmatory factor analysis to the study of self-concept: First and higher order factor structures and their invariance across age groups. <u>Psychological Bulletin</u>, <u>97</u>, 562-582.
- Mintzberg, H. (1990). The manager's job: Folklore and fact. <u>Harvard Business</u>. Review, 68, [2], 163-176.

- Montgomery, D.C., & Peck, E.A. (1982). Introduction to linear regression analysis. New York: Wiley.
- Muchinsky, P. (1977). An intraorganizational analysis of the Roberts and O'Reilly organizational communication questionnaire. <u>Journal of Applied Psychology</u>, 62, 2, 184-188.
- O'Reilly, C., & Roberts, K. (1976). Relationships among components of credibility and communication behaviors in work units. <u>Journal of Applied Psychology</u>. 61, 99-102.
- Roberts, K. & O'Reilly, C. (1974). Measuring organizational communication.

 <u>Journal of Applied Psychology</u>, 59, 321-326.
- Rock, D.A., Bennett, R.E., & Jirele, T. (1988). Factor structure of the graduate record examinations general test in handicapped and nonhandicapped groups.

 <u>Journal of Applied Psychology</u>, 73, 383-392.
- Rosow, J., & Zager, R. (1989). Allies in educational reform: How teachers, unions, and administrators can join forces for better schools. San Francisco: Jossey-Bass.
- Rotter, J. (1967). A new scale for the measurement of interpersonal trust. <u>Journal</u> of Personality, 35, 651-665.
- Rotter, J. (1980). Interpersonal trust, trustworthiness, and gullibility. American Psychologist, 35, 1-7.
- Rousseau, D. (1989). Psychological and implied contracts in organizations. Employee Rights and Responsibilities Journal, 2, 121-139.
- Schlenker, B., Helm, B., & Tedeschi, J. (1973). The effects of personality and situational variables on behavioral trust. <u>Journal of Personality and Social Psychology</u>. 25, 419-427.
- Schwab, D. (1980). Construct validity in organizational behavior. In B. Staw & L. Cummings (Eds.), Research in organizational behavior (Vol. 2. pp. 3-43).

 Greenwich, CT: JAI.
- Sheppard, B.H., Hartwick, J., & Warshaw, P.R. (1988). The theory of reasoned action: A meta-analysis of past research with recommendations for modifications and future research. Journal of Consumer Research, 15, 325-343.

- Smith, P.C, Kendall, L., & Hulin, C.L. (1969). The measurement of satisfaction in work and retirement. Chicago: Rand-McNally.
- Strickland, L.H. (1958). Surveillance and trust. Journal of Personality, 26, 200-215.
- Vance, R.J., MacCallum, R.C., Coovert, M.D., & Hedge, J.W. (1988). Construct validity of multiple job performance measures using confirmatory factor analysis. <u>Journal of Applied Psychology</u>, 73, 74-80.
- Wall, J. (1975). The effects of constituent trust and representative bargaining visibility on intergroup bargaining. Organizational Behavior and Human Performance, 14, 244-256.
- Walton, R., & McKersie, R. (1965). A behavioral theory of labor negotiations. New York: McGraw-Hill.
- Zand, D. (1972). Trust and managerial problem solving. <u>Administrative Science</u>
 <u>Ouarterly</u>, 17, 229-239.

Appendix

Items Measuring Willingness to Trust

Instructions for the items read: "Answer the questions in terms of what you would actually do in dealing with the president/superintendent..." The response format was: 1 = extremely unlikely, 2 = quite unlikely, 3 = slightly unlikely, 4 = neither, 5 = slightly likely, 6 = quite likely, and 7 = extremely likely. Item numbers correspond to their order in the surveys. Asterisks indicate reversed items.

Communication dimension items:

- 1. Think carefully before telling the president/superintendent my opinions.*
- 7. Give the president/superintendent all known and relevant information about important issues even if there is a possibility that it might jeopardize the school district/local union.
- 8. Give the president/superintendent all known and relevant information about important issues even if there is a possibility that it might jeopardize my job as the superintendent/local union president.
- 12. Minimize the information I give to the president/superintendent.*
- 18. Deliberately withhold some information when communicating with the president/superintendent.*

Informal Agreement dimension items:

- 3. Enter into an agreement with the president/superintendent even if his/her future obligations concerning the agreement are not explicitly stated.
- 5. Enter into an agreement with the president/superintendent even if I think other people might try to persuade him/her to break it.

- 10. Enter into an agreement with the president/superintendent even if it is unclear whether he/she would suffer any negative consequences for breaking it.
- 17. Decline the president's/superintendent's offer to enter into an unwritten agreement.*
- 20. Suggest that the president/superintendent and I enter into an unwritten agreement.

Task Reliance dimension items for management representatives:

- 4. Ask the president to convince the membership of the local teacher's union to give support to a newly initiated cooperative program between teachers and school administrators.
- 11. Ask the president to convince several incompetent teachers to take early retirement.
- 13. Ask the president to stop false rumors about personnel decisions that are circulating among the teachers.
- 16. Ask the president to convince the teachers to file grievances only in extreme cases.
- 19. Rely on the president to convince the membership of the teachers' local to have realistic expectations about what contract changes will be made in the next negotiation.

Task Reliance dimension items for labor representatives:

- 4. Ask the superintendent to try to persuade the district's administrators to lend their support to a newly initiated cooperative program between teachers and administrators.
- 11. Rely on the superintendent to make decisions about teacher transfers and assignments with a genuine concern for teacher job preferences.

- 13. Rely on the superintendent to dismiss teachers only in cases when poor performance has been clearly and impartially demonstrated.
- 16. Rely on the superintendent to solve a grievance through informal and cooperative discussions.
- 19. Rely on the superintendent to adhere to the collective bargaining contract.

Surveillance dimension items:

- 2. Watch the president/superintendent attentively in order to make sure he/she doesn't do something detrimental to the school district/local union.
- 6. Keep surveillance over the president/superintendent (i.e., "look over his/her shoulder") after asking him/her to do something.
- 9. Feel confident after asking the president/superintendent to do something.*
- 14. Check with other people about the activities of the president/superintendent to make sure he/she is not trying to "get away" with something.
- 15. In situations other than contract negotiations, check records to verify facts stated by the president/superintendent.

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Footnotes

¹The Fishbein-Ajzen model posits that the expectation component of the attitude toward a behavior is based on the perceived likelihood of a consequence stemming from one's own behavior. Because trust is a behavior where one's consequences are dependent upon the focal person's actions, the expectation component of the attitude toward trusting pertains to the perceived likelihood of a consequence stemming from the focal person's (trustworthy or untrustworthy) behavior. Also, the Fishbein-Ajzen model uses "value" to refer to one's affective reaction to a consequence. Because trust involves the anticipated (as opposed to the experienced) desirability or undesirability of consequences from the focal person's behavior, we used the term "valence" (Dachler & Mobley, 1973).

²Although this study proceeds from the assumption that some degree of trust among union and management representatives is desirable, we do not assume a compatibility of interests between labor and management (see Gordon & Nurick, 1981). Barnes (1981) discusses problems associated with extremes of either low or high trust.

³Sheppard et al.'s (1988) findings revealed that behavioral estimation items showed a somewhat stronger relation with actual behavior (frequency-weighted average correlation: .57) compared to measures of intention (frequency-weighted average correlation: .49).

⁴Regressions testing mediator relationships included the four covariates (age, sex, length of time the respondent has worked with the focal person, and length of time expected to continue working with the focal person). Reported significance levels are two-tailed.

Table 1
Fit Statistics of Hypothesized Measurement Model

	Management	Labor
Statistic	Representatives	Representatives
Chi Square (χ^2)	306.91	349.83
* ***	143	143
Degrees of Freedom (df)		
χ^2/df	2.15	2.45
Goodness of Fit Index	.910	.890
Adjusted Goodness of Fit Index	.870	.850
Root Mean Square Residual	.080	.070
Coefficient of Determination	.969	.993
Normed Fit Index	840	.810
Parsimonious Fit Index	.700	.680
N	305	293

Table 2

<u>Measurement Loadings for Management and Labor Representatives</u>

			Infor		Tas		.		
	Communication		Agree			ance	Surveillance		
Item	Mgmt.	Labor	Mgmt.	Labor	Mgmt.	Labor	Mgmt.	Labor	
1	.518	.182	· · · · · · · · · · · · · · · · · · ·		***************************************		······································		
7	.504	.487							
8	.511	.480							
12	.628	.860							
18	.409	.777			,				
3 ·			.647	.601					
5			.581	.542					
10			.599	.435					
17			.415	.564					
20			.644	.595					
4					.594	.266			
11					.629	.756			
13					.611	.668			
16					.566	.653			
19					.470	.683			
2							.795	.698	
6							.830	.709	
14							.661	.820	
15							.556	.684	
Alpha	. 72	.71	.73	.68	. 70	.74	.79	.82	

Note. All loadings were significant at the p < .001 level. Item numbers correspond to their order in the surveys. Items are provided in the Appendix.

Table 3

LISREL Estimates of Correlations Between Dimensions of Trust

Dimension	1	2	3	4	
1. Communication	-	.645**	.404**	737**	
2. Informal Agreement	.430**	-	.681**	297*	
3. Task Reliance	.499**	.667**	-	135**	
4. Surveillance	544**	<i>5</i> 29**	628* *	-	

Note. Management representative correlations are above the diagonal, labor representative correlations are below the diagonal. * p < .05. ** p < .01.

Table 4

Descriptive Statistics for Variables Included in the Regression Analyses.

		M	SD	1	2	3	4	5	6	7	8	9
1.	Total measure of willingness to trust the focal person	11.87 10.98	2.50 2.75	-	-11*	-06	11*	16**	61***	26***	63***	18**
2.	Respondent's age	50.20 42.97	6.56 6.39	14*	-	-02	10	-06	-08	03	-13*	00
3.	Respondent's sex (women=0; men=1)	.91 .59	.32 .58	-07	13*	-	02	02	00	03	-02	01
4.	Length of time respondent has worked with the focal person (years)	2.80 5.41	3.04 4.45	-02	09	02	-	37***	-03	06	07	-02
5 .	Length of time respondent expects to continue working with the focal person (years)	2.97 1.72	3.26 2.01	06	00	-02	07	-	11*	-02	17**	-09
6.	Attitude toward trusting the focal person	1.64 1.53	2.05 2.11	67***	08	-06	01	08	-	31***	70***	10
7.	Norms for trusting the focal person	12.30 10.23	3.42 3.17	53***	05	-06	04	14*	49***	-	31***	02
8.	Past trustworthiness of the focal person	4.11 3.54	.80 .84	73***	06	-06	06	04	71***	60***	-	-01
9.	Degree to which the respondent has a trusting personality	2.99 2.61	.58 .50	18**	00	-07	-06	01	16**	10	16**	-

Note. Management representatives: N = 297 - 305. Labor representatives: N = 288 - 293. Means and standard deviations for management representatives are listed first, labor representatives are listed second. Except for the attitude variable, t tests revealed significant differences (p < .001 level, two-tailed) across samples for all means. Decimal points were omitted from correlations. Management representative correlations are above the diagonal, labor representative correlations are below the diagonal. *p < .05. **p < .01. ***p < .001.

Table 5
Regression Results With Predictors of Willingness to Trust.

	Managem	ent Repre	sentatives	Labor Representatives			
Independent variable	<u>b</u>	Beta	1	<u>b</u>	Beta	Ţ	
Covariates:							
Respondent's age	02	05	-1.08	.04	.09	2.39+	
Respondent's sex (women = 0; men = 1)	42	05	-1.22	08	02	42	
Length of time the respondent has worked							
with the focal person	.08	. 10	2.04+	04	07	-1.68	
Length of time the respondent expects to							
continue working with the focal person	. 02	.03	.65	.01	.01	.21	
Hypothesized predictors:							
Attitude toward trusting the focal person	.39	.32	5.26***	.34	.26	4.79**	
Norms for trusting the focal person	.03	.05	1.01	.07	.09	1.81*	
Past trustworthiness of the focal person	1.21	.38	6.25***	1.56	.49	8.26**	
Degree to which the respondent has a trusting							
personality	.60	. 14	3.22**	.30	.06	1.47	
	\mathbb{R}^2 for	the equal	tion = .49**	\mathbb{R}^2 for	\mathbb{R}^2 for the equation = $.59^*$		

Note. Management representatives: N = 293. Labor representatives: N = 285. *p < .05, one-tailed. **p < .001, one-tailed. *p < .05, two-tailed.

Figure Caption

Figure. Hypothesized relationships among trust and its predictors. (Positive relationships are denoted by "+." Other arrows denote mediator relationships.)

