

AFFECT- AND COGNITION-BASED TRUST AS FOUNDATIONS FOR INTERPERSONAL COOPERATION IN ORGANIZATIONS

DANIEL J. McALLISTER
Georgetown University

This study addressed the nature and functioning of relationships of interpersonal trust among managers and professionals in organizations, the factors influencing trust's development, and the implications of trust for behavior and performance. Theoretical foundations were drawn from the sociological literature on trust and the social-psychological literature on trust in close relationships. An initial test of the proposed theoretical framework was conducted in a field setting with 194 managers and professionals.

Trust . . . tends to be somewhat like a combination of the weather and motherhood; it is widely talked about, and it is widely assumed to be good for organizations. When it comes to specifying just what it means in an organizational context, however, vagueness creeps in.

—Porter, Lawler, & Hackman, 1975: 497

Recent developments in the organizational sciences reflect the importance of interpersonal trust relationships for sustaining individual and organizational effectiveness. Researchers have recognized trust's influence on coordination and control at both institutional (Shapiro, 1987, 1990; Zucker, 1986) and interpersonal levels of organization (Granovetter, 1985; Pennings & Woiceshyn, 1987). Because economic action is embedded within networks of social relationships (Bradach & Eccles, 1989; Fichman & Levinthal, 1991; Granovetter, 1985; Larson, 1992), researchers have argued that efficiency within complex systems of coordinated action is only possible when interdependent actors work together effectively. Trust between such actors is seen as a determining factor (Pennings & Woiceshyn, 1987; Seabright, Levinthal, & Fichman, 1992).

For managers and professionals in organizations, developing and maintaining trust relationships is especially important. As boundary spanners, managers work through critical horizontal ties to external constituencies on which their departments or organizations depend (Mintzberg, 1973; Sayles,

I am grateful to Jone Pearce, Anne Tsui, and Lyman Porter for their guidance and advice in this research, conducted as part of my doctoral dissertation at the University of California, Irvine. Special words of appreciation are due to Susan Ashford and two anonymous reviewers for their insightful comments and constructive feedback on several earlier drafts of this article.

1979). Given the complexity and uncertainty inherent in managerial work and the amount of mutual accommodation it involves, effective horizontal working relationships within organizations are also critical (Gabarro, 1990; Sayles, 1979). As Thompson (1967) observed, under conditions of uncertainty and complexity, requiring mutual adjustment, sustained effective co-ordinated action is only possible where there is mutual confidence or trust.

Although trust's importance has been acknowledged, the matter of how it develops and functions has received little systematic theoretical attention. The present work develops and tests a theoretical model based on the sociological literature on trust (Barber, 1983; Lewis & Wiegert, 1985; Luhman, 1979; Shapiro, 1990; Zucker, 1986) and social-psychological work on trust in close relationships (Johnson-George & Swap, 1982; Rempel, Holmes, & Zanna, 1985). The present research was designed to contribute to understanding of the nature and functioning of interpersonal trust relationships by (1) distinguishing between two principal forms of interpersonal trust—cognition-based trust, grounded in individual beliefs about peer reliability and dependability, and affect-based trust, grounded in reciprocated interpersonal care and concern—(2) identifying factors influencing the development of each form of trust, and (3) examining the implications of each trust form for coordination-relevant behavior, including monitoring to control peers, defensive behavior, monitoring to assist peers, and interpersonal citizenship behavior.

THEORETICAL FOUNDATIONS

Interpersonal trust is a pervasive phenomenon in organizational life. Trust enables people to take risks: “where there is trust there is the feeling that others will not take advantage of me” (Porter et al., 1975: 497). Trust is based on the expectation that one will find what is expected rather than what is feared (Deutsch, 1973). Thus, competence and responsibility are central to understandings of trust (Barber, 1983; Cook & Wall, 1980; Shapiro, 1990). At times an individual's trust in others is centered more on how they make decisions that affect him or her than on how they behave: “Do they consider my interests and welfare?” Finally, trust encompasses not only people's beliefs about others, but also their willingness to use that knowledge as the basis for action (Luhmann, 1979). Combining these ideas yields a definition of interpersonal trust as the extent to which a person is confident in, and willing to act on the basis of, the words, actions, and decisions of another.

Principal Forms of Interpersonal Trust: Affect- and Cognition-Based Trust

Interpersonal trust has cognitive and affective foundations (Lewis & Wiegert, 1985). Trust is cognition-based in that “we choose whom we will trust in which respects and under what circumstances, and we base the choice on what we take to be ‘good reasons,’ constituting evidence of trust-

worthiness" (Lewis & Wiegert, 1985: 970). The amount of knowledge necessary for trust is somewhere between total knowledge and total ignorance (Simmel, 1964). Given total knowledge, there is no need to trust, and given total ignorance, there is no basis upon which to rationally trust. Available knowledge and "good reasons" serve as foundations for trust decisions, the platform from which people make leaps of faith, like those involved in trusting (Luhmann, 1979; Simmel, 1964).

Past measures of trust in organizational settings suggest that competence and responsibility are central elements (Butler, 1991; Cook & Wall, 1980). Reliability and dependability have also been included in measures of interpersonal trust in close relations (Johnson-George & Swap, 1982; Rempel et al., 1985). Reliability and dependability expectations must usually be met for trust relationships to exist and develop (Zucker, 1986) and evidence to the contrary provides a rational basis for withholding trust (Luhmann, 1979; Shapiro, 1987, 1990).

Affective foundations for trust also exist, consisting of the emotional bonds between individuals (Lewis & Wiegert, 1985). People make emotional investments in trust relationships, express genuine care and concern for the welfare of partners, believe in the intrinsic virtue of such relationships, and believe that these sentiments are reciprocated (Pennings & Woiceshyn, 1987; Rempel et al., 1985). Ultimately, the emotional ties linking individuals can provide the basis for trust.

Empirical evidence from the social-psychological literature on trust in close relationships supports this distinction between the two forms of trust. Johnson-George and Swap (1982) identified, distinguished between, and reliably measured two dimensions of trust they labeled "reliableness" and "emotional trust." Similarly, Rempel and colleagues (1985) distinguished between "dependability" and "faith" (emotional security) as unique forms of trust. Organizations abound with relationships based on dependability and faith (Pennings & Woiceshyn, 1987) in which moderate expressions of interpersonal care and concern are not uncommon (Granovetter, 1985; Griesinger, 1990; Pennings & Woiceshyn, 1987). Drawing on this theoretical distinction between forms of interpersonal trust, I hypothesized that

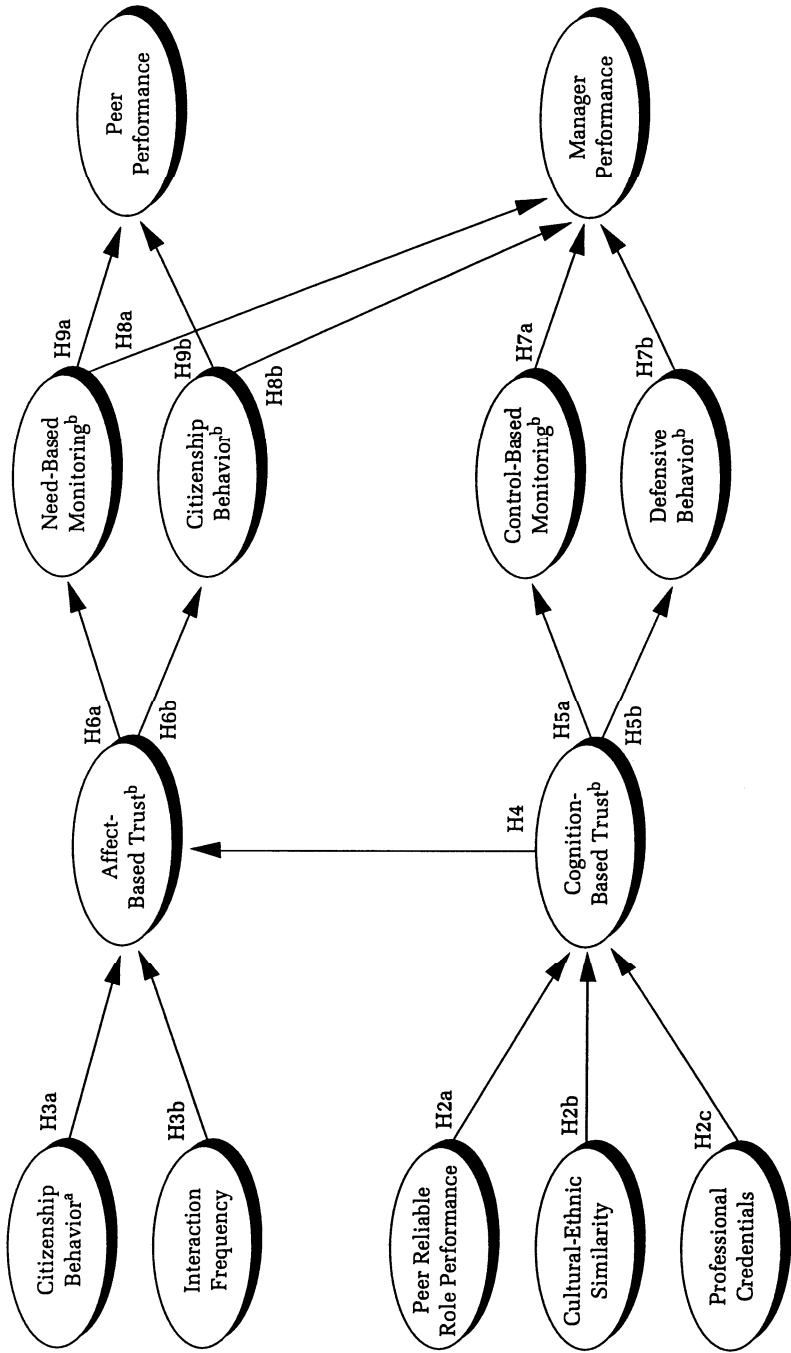
Hypothesis 1: Relationships of interpersonal trust among managers in organizations are characterized by two dimensions—cognition-based trust and affect-based trust.

Figure 1 outlines the theoretical framework developed in the following discussion. The sequence of relationships is from peer attributes and behavior, through focal manager assessments of peer trustworthiness, to focal manager behavioral responses, and ultimately to focal manager and peer performance alike.

Factors Influencing Managerial Trust Relationships

Antecedents of cognition-based trust. In organizations, the extent to which a manager will be willing to vest cognition-based trust in peers may

FIGURE 1
Theoretical Model Outlining the Role of Trust in Interpersonal Relationships in Organizations



^a Direction of relationship is from peer to manager.
^b Direction of relationship is from manager to peer.

depend on the success of past interaction, the extent of social similarity, and organizational context considerations (Zucker, 1986). First, because working relationships are typically personal and extend over time, it is possible for people to consider the track record of peers, or how they have carried out role-related duties in the past, when assessing trustworthiness (Cook & Wall, 1980; Granovetter, 1985). Evidence that a peer's behavior is consistent with norms of reciprocity and fairness and that the peer follows through on commitments is vital (Lindsfold, 1978; Stack, 1988). In working relationships involving high interdependence, peer performance can have a determining impact on personal productivity, and evidence that peers carry out role responsibilities reliably will enhance a manager's assessments of a peer's trustworthiness. Accordingly,

Hypothesis 2a: The level of a manager's cognition-based trust in a peer will be positively associated with the extent of that peer's reliable role performance.

Second, social similarity between individuals can influence trust development. Groups of individuals with similar fundamental characteristics, such as ethnic background, may have an advantage over diverse groups in their ability to create and maintain trusting working relationships. Light (1984) documented the tendency of ethnic minority entrepreneurs to conduct business through co-ethnic rather than interethnic social circles. More fundamentally, self-categorization theorists have observed that individuals tend to group themselves with others on the basis of objective attributes such as race, age, and gender (Turner, 1987) and that such internal classifications influence beliefs and attitudes. Individuals are more likely to perceive out-group members as dishonest, untrustworthy, and uncooperative than they are to so perceive in-group members (Brewer, 1979). Notwithstanding the potential beliefs of diversity for organizations, which include enhanced creativity, access to a broader set of environmental resources, and more, the possibility that cultural similarity facilitates the creation and maintenance of trust in organizations merits recognition. Accordingly,

Hypothesis 2b: The level of a manager's cognition-based trust in a peer will be greater when the two are culturally or ethnically similar.

Third, formal organizations, through formal role specifications, specify boundaries for trust relationships (Baier, 1985; Fox, 1974) and professional credentials serve as clear signals of role preparedness. Educational institutions, professional associations, and credentialing agencies manufacture trust by providing guarantees to would-be trusters through certification that individuals meet standards for acceptability in a larger professional community (Zucker, 1986). Professional standing can be maintained over time through continued membership and participation in relevant professional associations. Thus,

Hypothesis 2c: The level of a manager's cognition-based trust in a peer will be greater for peers with higher professional credentials.

Antecedents of affect-based trust. Although external factors making the behavior of relationship partners predictable provide foundations for cognition-based trust, insights into the motives of relationship partners provide foundations for affect-based trust. Findings from attribution research indicate that behavior recognized as personally chosen rather than role-prescribed, serving to meet legitimate needs, and demonstrating interpersonal care and concern rather than enlightened self-interest may be critical for the development of affect-based trust (Clark & Mills, 1979; Clark, Mills, & Powell, 1986; Clark & Waddell, 1985; Holmes, 1978; Holmes & Rempel, 1989; Kelly, 1979; Rempel et al., 1985).

Such behavior corresponds well with descriptions of organizational citizenship behavior (OCB; Organ, 1988; Smith, Organ, & Near, 1983). Organ defined OCB as behavior intended to provide help and assistance that is outside an individual's work role, not directly rewarded, and conducive to effective organizational functioning. Smith, Organ, and Near defined altruism, a specific form of OCB, as behavior "directly and intentionally aimed at helping a specific person in face-to-face situations" (1983: 657). Altruistic behavior may provide an attributional basis for affect-based trust. Being extra-role, it can be viewed as being personally chosen, and not being directly rewarded, it cannot easily be attributed to enlightened self-interest (MacKenzie, Podsakoff, & Fetter, 1991). Accordingly,

Hypothesis 3a: The level of a manager's affect-based trust in a peer will be positively associated with the level of that peer's citizenship behavior directed toward the manager.

Because affect-based trust is grounded in an individual's attributions concerning the motives for others' behavior, it should be limited to contexts of frequent interaction, where there are sufficient social data to allow the making of confident attributions (Lewis & Wiegert, 1985). Thus,

Hypothesis 3b: The level of a manager's affect-based trust in a peer will be positively associated with the frequency of interaction between the manager and the peer.

The relationship between cognition- and affect-based trust. Although much of the research on affectivity in organizations and on the relationship between affect and cognition has focused on unanchored mood states (Brief & George, 1992; Burke, Brief, George, Roberson, & Webster, 1989), increasing attention is being given to the interpersonal foundations of affectivity (Isen & Baron, 1991; Longenecker, Jaccoud, Sims, & Gioia, 1992; Park, Sims, & Motowidlo, 1986; Tsui & Barry, 1986). Research on affect and cognition in close relationships has highlighted the development of interpersonal affect

upon a cognitive base (Holmes & Rempel, 1989; Rempel et al., 1985). Cognition-based trust, or reliableness, is seen as "more superficial and less special" than emotional trustworthiness (Johnson-George & Swap, 1982: 1316). Faith (Rempel et al., 1985: 98) is characterized by a greater investment of time and emotion than are dependability and reliability.

For working relationships among managers, some level of cognition-based trust may be necessary for affect-based trust to develop; people's baseline expectations for peer reliability and dependability must be met before they will invest further in relationships. Where baseline expectations are not yet established, individuals may be inclined to attribute extra-role conduct to ingratiation and impression management rather than to care and concern. Once an individual has established a track record for reliability and dependability, and thus some level of cognition-based trust exists, confident attributions concerning the motivations for that person's citizenship behavior may follow. Accordingly,

Hypothesis 4: A manager expressing high levels of cognition-based trust in a peer will also report high affect-based trust in that peer.

Two comments qualify this developmental perspective on the relationship between affect- and cognition-based trust. First, given the distinctive antecedents and consequences posited, affect-based trust should be viewed as a distinct form of interpersonal trust rather than as a higher level of trust. Second, as affect-based trust matures, the potential for the decoupling of trust forms and for reverse causation (affect-based trust influencing cognition-based trust) increases. Zajonc observed that "once formed, an evaluation is not easily revoked. . . . Affect often persists after a complete invalidation of its original cognitive basis" (1980: 157). Holmes and Rempel (1989) observed that as affect-based trust develops, key attributions, such as "This colleague genuinely cares about me," become incorporated into a stable and global picture of a partner's motives. In time, ascribed motives are taken as permanent and left unquestioned, even in the face of disconfirming evidence. Transgressions are discounted in advance or explained away. Thus, once a high level of affect-based trust has developed, a foundation of cognition-based trust may no longer be needed.

Consequences of Managerial Beliefs About Peer Trustworthiness

Control-based monitoring and defensive behavior. Where one person, interdependent with another, cannot count on that individual to be dependable and reliable, he or she can take steps to manage the uncertainty inherent in the situation. Monitoring to control the untrustworthy individual is one likely response (Bradach & Eccles, 1989; Pennings & Woiceshyn, 1987; Williamson, 1974). As Ouchi observed, "People must either be able to trust each other or to closely monitor each other if they are to engage in cooperative enterprises" (1979: 846).

Besides assuring some minimal level of peer performance, managers

must perform their own duties with little disturbance, buffer themselves from the influence of others, and protect their personal interests (Ashforth & Lee, 1990). Individuals behave defensively, for example, when they make requests for assistance well ahead of the time they are needed, draw upon multiple and redundant sources when making requests for the assistance, expend extra resources working around and avoiding others, and use official and formal (rather than informal) means to document requests (Ashforth & Lee, 1990). Two hypotheses follow:

Hypothesis 5a: A manager expressing a high level of cognition-based trust in a peer will engage in little control-based monitoring of that peer.

Hypothesis 5b: A manager expressing a high level of cognition-based trust in a peer will direct little defensive behavior toward that peer.

Within this theoretical framework, control-based monitoring and defensive behavior are behavioral consequences of cognition-based trust alone. In practical terms, for affect-based trust to develop, some level of cognition-based trust must already exist, and it can be expected that where cognition-based trust is present, levels of monitoring and defensive behavior will be low. Likely consequences of affect-based trust are outlined below.

Need-based monitoring and interpersonal citizenship behavior. Relationships characterized by affect-based trust resemble so-called communal relationships (Clark, Mills, & Corcoran, 1989; Clark, Mills, & Powell, 1986). Research findings show that individuals in communal relationships are more inclined to keep track of associates' needs than are individuals in exchange relationships. What drives need-based monitoring is not the desire to generate future obligations or to reciprocate benefits received, but rather an understanding of the communal nature of the relationship: "In a communal relationship, the idea that a benefit is given in response to a benefit that was received is compromising, because it calls into question the assumption that each member responds to the needs of the other" (Clark & Mills, 1979: 13). In communal relationships, partners appear less inclined to keep track of personal inputs on joint tasks (Clark, 1984) and to feel exploited by unrequited helping (Clark & Waddell, 1985). They take on their partners' problems as their own, develop a tacit awareness of partners' needs, and learn how to respond appropriately (Holmes & Rempel, 1989). Similarly, in affect-based-trust relationships, sensitivity to the personal and work-related needs of associates should be high. Accordingly,

Hypothesis 6a: A manager expressing a high level of affect-based trust in a peer will engage in a great amount of need-based monitoring of that peer.

Individuals expressing high affect-based trust in peers may also direct a great amount of interpersonal citizenship behavior toward them. Increased assistance may follow naturally either from an increased awareness of peer

needs (the product of need-based monitoring) or from a desire to assist peers in meeting their personal objectives and to express felt care and concern tangibly. Although Organ and Konovsky asserted that "characteristic OCB has a deliberate, controlled character, somewhat akin to conscious decision making rather than expressive emotional behavior" (1989: 162), I argue that when a great amount of citizenship behavior is directed toward a focal individual, the behavior has expressive, noncalculated qualities. Accordingly,

Hypothesis 6b: A manager expressing a high level of affect-based trust in a peer will direct a great amount of interpersonal citizenship behavior toward that peer.

It is important to note that no direct relationship between a peer's interpersonal citizenship behavior and a manager's citizenship behavior is posited. Observation of a direct relationship would demonstrate the influence of reciprocity and exchange norms (Holmes, 1978; Holmes & Rempel, 1989). Within the proposed framework, peer conduct (citizenship directed toward a focal manager) influences the focal manager's affect-based-trust perceptions through its expressive qualities. Those perceptions in turn influence the manager's citizenship behavior toward the peer. The latter's citizenship behavior becomes an expressive act rather than an obligation-discharging and equilibrium-restoring act of reciprocation.

Performance Implications of Cognition- and Affect-Based Trust

Apart from a general assumption of the efficacy of trust relations as a lubricant to the social system, facilitating coordinated action (Arrow, 1974; Ouchi, 1979; Williamson, 1974), existing research contains little on how trust affects performance outcomes. The behavioral consequences of trust may provide one line of explanation. Managerial and professional work involves mutual adjustment and accommodation within a multiple constituency context (Sayles, 1979; Tsui, 1984). Trusting peers should receive enhanced performance assessments to the extent that the behavioral consequences of trust further organizational ends. If trust helps to further organizational ends, it should be associated with supervisor assessments of the performance of trusting and trusted individuals.

Performance implications of defensive behavior and control-based monitoring. In general, monitoring and defensive behavior represent non-productive uses of finite managerial resources. Allocating work energies to pursuits like monitoring (Alchian & Demset, 1972; Baker, Jensen, & Murphy, 1988) and defensive behavior (Ashforth & Lee, 1990; Kahn, Wolfe, Quinn, & Snoek, 1964) involves a trade-off: Managers engaging in excessive monitoring and defensive behavior will have fewer resources remaining with which to accomplish fundamental work objectives. Accordingly,

Hypothesis 7a: The level of a manager's control-based monitoring of peer will be negatively associated with supervisor assessments of the manager's performance.

Hypothesis 7b: The level of a manager's defensive behav-

ior toward a peer will be negatively associated with supervisor assessments of the manager's performance.

Performance implications of need-based monitoring and citizenship behavior. Organizations depend on the discretionary contributions of their members to maintain efficiency and coordination; one has only to witness the disruption that occurs when employees limit their contributions exclusively to what is specified in their job descriptions to realize that this is the case (Katz, 1964). Organizations must also depend on employees to use their skills and energies wisely so that contributions are maximized—organizations need employees who work not only harder but smarter. An essential ingredient in working smarter is undoubtedly paying attention and looking for opportunities to make constructive contributions.

Thus, need-based monitoring and citizenship behavior by focal managers may enhance assessments of their contributions, especially assessments provided by supervisors and others whose interests are aligned with those of the organization. Two hypotheses follow:

Hypothesis 8a: The level of a manager's need-based monitoring of a peer will be positively associated with supervisor assessments of the manager's performance.

Hypothesis 8b: The level of a manager's interpersonal citizenship behavior directed toward a peer will be positively associated with supervisor assessments of the manager's performance.

Performance enhancement is likely to be a principal motivator for need-based monitoring. Need-based monitoring arises when individuals feel responsible for the needs of others and wish to respond to those needs (Clark et al., 1989). Pearce and Gregerson argued that "felt responsibility is a psychological state that may play an important role in numerous aspects of job performance and deserves further research attention" (1991: 843). Indeed, need-based monitoring and assistance behavior that addresses work-related needs should enhance peer performance. Two hypotheses complete the theoretical framework:

Hypothesis 9a: The level of a manager's need-based monitoring of a peer will be positively associated with supervisor assessments of the peer's performance.

Hypothesis 9b: The level of a manager's interpersonal citizenship behavior directed toward a peer will be positively associated with supervisor assessments of the peer's performance.

METHODS

Respondents

A sample of 194 managers and professionals, including men and women from various industries, reported on cross-functional dyadic relationships

with peers at work. Individuals enrolled in, and alumni of, the executive master's of business administration (EMBA) program of a major university in southern California were requested to participate and to nominate peers from work to participate with them. In examining relations among middle- and upper-level managers, I focused on relations of lateral interdependence (Sayles, 1979), where the impact of trust's presence or absence was expected to be pronounced (Thompson, 1967).

Each EMBA affiliate agreeing to participate nominated two peers, so triads were formed. Triad members separately completed surveys describing various aspects of their working relationships with one another. Respondents provided two forms of data: (1) information concerning one triad member from the perspective of a focal manager, and (2) information concerning the second triad member from the perspective of a peer. Data collected from respondents were combined to form manager-peer dyad records. Of the 197 individuals initially contacted, 80 agreed to participate, a 41 percent acceptance rate. Given the level of commitment involved (questionnaire response, as well as nominating peers), this response rate is well within accepted limits. The nominated peers were not associated with the EMBA program, and the response rate at the second stage of the study was 81 percent (194 of 240 EMBA students, alumni, and nominated peers). From the data collected, I constructed 175 complete manager-peer dyad records, which formed the basis for the present research. The initial contacts also identified one person, in most cases a superior, familiar with the performance of all triad members to provide performance information; the superior's response rate was 86 percent.

The respondents were, for the better part, mature (an average age of 38 years), well-educated (57 percent with some graduate training, 28 percent with undergraduate degrees) individuals with considerable organizational experience (an average professional tenure of 11.7 years). The profile of respondents by age and gender corresponds well with that of the population of EMBA students and alumni (average age 37 years, 74.8 percent men). Although further information on the population from which respondents were drawn was not available, it appeared likely that they were representative of the population.

Procedures

Initial contacts agreeing to participate in this study were directed to think of peers (not supervisors or subordinates), from functional areas different from their own, with whom they had significant work-related interaction. After a contact identified three to five people with whom he or she "worked the best" and three to five with whom he or she "worked less well," the individual selected one person from each list to participate in the study with him or her. The working relationships examined were task-oriented, not limited to close friendships, and varied along the critical dimensions of trust. By stipulating that the people chosen should interact with one another at work, I ensured the existence of three separate dyads in each organiza-

tion.¹ I used a randomization procedure to assign individuals to focal manager–peer dyads and to allocate reporting roles within dyads. The statistical independence of observations was maintained by having no respondents provide information from the perspective of one role (focal manager or peer) for more than one dyad.²

Measures

Except for the performance data provided by superiors, dyad members provided all data for this study. Given the dyad-specific nature of the information involved, I considered these sources most authoritative. Focal managers reported on peer trustworthiness and behavioral responses to peers (control-based monitoring, defensive behavior, need-based monitoring, and citizenship behavior). Peers provided exogenous data (interaction frequency, citizenship behavior, reliable role performance, educational attainment, and ethnic background).

Affect- and cognition-based trust. A new measure to assess affect- and cognition-based trust levels was developed for use in this study. The measure consists of 11 items, 6 assessing levels of cognition-based trust, and 5 assessing affect-based trust; respondents indicated, on a scale ranging from 1 (strongly disagree) to 7 (strongly agree), their agreement with various statements about a specific peer at work.

Drawing on a review of the literature and on available measures of interpersonal trust (Cook & Wall, 1980; Johnson-George & Swap, 1982; Rempel et al., 1985; Rotter, 1971). I created an initial pool of 48 items. Eleven organizational behavior scholars, provided with definitions of affect- and cognition-based trust, classified these items as tapping cognition-based trust, affect-based trust, both forms of trust, or neither form of trust. Based on an analysis of expert evaluations, I created a subset of 20 unambiguous items,

¹ The procedure used here is similar to that used by Tsui (1984). Manipulation checks revealed that it was effective in controlling self-selection tendencies and building variation along the critical trust dimensions. Nominating individuals expressed greater affect- and cognition-based trust in peers selected from the people with whom they worked best than in those with whom they worked less well (pairwise *t*-tests, $p < .001$). Also, nominated peers from the first list expressed greater affect- and cognition-based trust in the nominating individuals than did peers from the second list (pairwise *t*-tests, $p < .05$).

² By random assignment, triad members were assigned roles as respondents (1, 2, or 3). The three focal manager → peer dyads addressed were as follows: 1 → 2, 2 → 3, and 3 → 1. Thus, respondent 1 provided information from the perspective of a focal manager for his or her relationship with respondent 2 and information from the perspective of a peer for his or her relationship with respondent 3. Although I collected complete data for all relationships within each triad, dyad-specific data collected for use in hypothesis testing were collected first. By collecting respondent 1's assessment of his or her trust in respondent 2 before collecting information on his or her trust in respondent 3, the relevant assessment received was absolute rather than comparative. This method allowed efficient use of respondents (data concerning three dyads were collected from each set of three respondents) and maintained independence of observations. Further, parallel data collected but not used in hypothesis testing could be used for preliminary analyses of new measures developed in the study.

10 items for each form of trust. I used results of an exploratory factor analysis of pretest data from a group of employed M.B.A. and undergraduate business students to further reduce the measure to the 11 strongest-loading items. Table 1 gives the wording and confirmatory analysis results for this trust measure and for the behavioral response measures, which are discussed in the next section. Reliability estimates (Cronbach's alphas) for the cognition- and affect-based trust measures are .91 and .89, respectively.

Behavioral response measures. The questionnaire contained 25 items designed to measure behavioral responses associated with trusting or distrusting peers. Respondents reported the extent to which they agreed that certain actions described their behavior toward a specific peer on a seven-point scale (1, strongly disagree, to 7, strongly agree). Fourteen items measuring control-based monitoring, defensive behavior, and need-based monitoring were original to the present study, developed from a review of the literature and pretested on the group described above. Eleven items assessed citizenship behavior, 6 of which were drawn from Williams and Anderson's (1991) measure and rephrased to address assistance to specific individuals rather than organization members in general and 5 of which were developed to more fully tap the domain of the construct.

Initial exploratory factor analyses were conducted on parallel data that were collected but not used to test hypotheses in the present research (see footnote 1). I extracted four factors with acceptable psychometric properties (eigenvalue greater than 1.0, $\alpha > .60$) and retained them for confirmatory analysis with the present respondents: control-based monitoring and defensive behavior items together (factor 1), citizenship behavior with strong affiliative content (factor 2), citizenship behavior involving congenial assistance (factor 3), and need-based monitoring (factor 4).

To assess the adequacy of the derived trust and behavioral response measures for use with the present research sample and to test the discriminant validity of trust and behavioral response measures, I conducted a confirmatory factor analysis using LISREL 7 (Jöreskog and Sörbom, 1989). I computed the comparative fit index (CFI), a fit measure that prevents the underestimation of fit likely to occur in small samples, to assess the fit of the factor structure to the data (Bentler, 1990) and examined correlations among factors to assess the discriminant validity of measures. Table 1 reports results.

Overall, the model fit the data well (CFI = .90). All factor loadings (lambdas) on specified factors were significant ($t > 1.96$). Reliability estimates (α) for affiliative citizenship behavior, assistance-oriented citizenship behavior, need-based monitoring, and monitoring and defensive behavior measures were .79, .85, .69, and .87, respectively. However, several correlations among latent constructs were considerable, with off-diagonal elements in the phi-matrix exceeding .60.

Because I obtained trust and behavioral response measures from a single source, it was important to demonstrate substantive differences between these measures. Within the LISREL framework, discriminant validity can be

TABLE 1
Results of Confirmatory Factor Analysis for Behavioral Response and Interpersonal Trust Measures^a

Items	Lambdas
Affect-based trust	
We have a sharing relationship. We can both freely share our ideas, feelings, and hopes.	.89
I can talk freely to this individual about difficulties I am having at work and know that (s)he will want to listen.	.82
We would both feel a sense of loss if one of us was transferred and we could no longer work together.	.81
If I shared my problems with this person, I know (s)he would respond constructively and caringly.	.79
I would have to say that we have both made considerable emotional investments in our working relationship.	.66
Cognition-based trust	
This person approaches his/her job with professionalism and dedication.	.90
Given this person's track record, I see no reason to doubt his/her competence and preparation for the job.	.86
I can rely on this person not to make my job more difficult by careless work.	.81
Most people, even those who aren't close friends of this individual, trust and respect him/her as a coworker.	.77
Other work associates of mine who must interact with this individual consider him/her to be trustworthy.	.73
If people knew more about this individual and his/her background, they would be more concerned and monitor his/her performance more closely. ^b	.69
Need-based monitoring	
Even when others think everything is fine, I know when (s)he is having difficulties.	.76
This person doesn't have to tell me in order for me to know how things are going for him/her at work.	.72
Affiliative citizenship behavior	
I take time to listen to this person's problems and worries.	.79
I have taken a personal interest in this individual.	.78
I frequently do extra things I know I won't be rewarded for, but which make my cooperative efforts with this person more productive.	.72
I pass on new information that might be useful to this person.	.65
I willingly help this individual, even at some cost to personal productivity.	.62
When making decisions at work that affect this individual, I try to take his/her needs and feelings into account.	.40
I try not to make things more difficult for this person by my careless actions.	.17
Assistance-oriented citizenship behavior	
I help this person with difficult assignments, even when assistance is not directly requested.	.90
I assist this person with heavy work loads, even though it is not part of my job.	.84
I help this person when (s)he has been absent.	.71
Monitoring and defensive behavior	
I find that this person is not the sort of coworker I need to monitor closely. ^b	.85
The quality of the work I receive from this individual is only maintained by my diligent monitoring.	.81
I have sometimes found it necessary to work around this individual in order to get things done the way that I would like them to be done.	.73
I keep close track of my interactions with this individual, taking note of instances where (s)he does not keep up her/his end of the bargain.	.72
I have found it necessary to make inquiries before responding to this person's requests for assistance. This ensures that my interests are protected.	.62
Rather than just depending on this individual to come through when I need assistance, I try to have a backup plan ready.	.56

^a The lambdas are reported from the completely standardized solution. Chi-square with 362 degrees of freedom is 681.64 ($p < .001$). Comparative fit index is .90. Calculated from null of 3,646.90 with 406 degrees of freedom.

^b Item was reverse-coded.

assessed in part by constraining a single phi coefficient (ϕ_{ij}) to 1.0, refitting the model, and testing the resulting change in the chi-square measure of model fit (Anderson & Gerbing, 1988; Bagozzi & Yi, 1988). I conducted this analysis for each of four correlations exceeding .60. With one exception, constraining ϕ_{ij} to 1.0 resulted in a significant worsening in model fit, indicating a real difference in the measures. The relationship between cognition-based trust and monitoring and defensive behavior measures was found to be $-.85$, and the constrained-coefficient model did not yield a change in model fit ($\Delta\chi^2 = .71$, $df = 1$, n.s.). Because monitoring and defensive behavior could not be empirically distinguished from negative cognition-based trust, I decided to retain the cognition-based trust measure and exclude the monitoring and defensive behavior measure from further use in this study.

Exogenous variables. Reliable role performance was measured with four items drawn from Williams and Anderson's (1991) measure of organization-directed citizenship behavior and in-role behavior. Respondents assessed, on a seven-point scale ranging from 1, "almost never," to 7, "almost always," the extent to which each behavior described was characteristic of their behavior on the job. Frequency of interaction was measured with four items adapted from an instrument developed by Wilson (1988). Respondents described the frequency of various forms of their work-related interaction with a focal manager on a seven-point scale ranging from 1 (once or twice in the last six months) to 7 (many times daily). Citizenship behavior, affiliative and assistance-based, was measured with items identical to those used for focal manager citizenship behavior.

Table 2 reports confirmatory factor analysis results for the exogenous scales and item wordings. The four-factor solution provides an adequate fit for the data ($CFI = .90$, $t > 1.96$, all loadings). Reliability estimates for interaction frequency, peer affiliative citizenship behavior, peer assistance-oriented citizenship behavior, and peer reliable role performance are .91, .81, .82, .77, respectively.

Demographic data, including education level, age, gender, and ethnicity, were collected to develop a basic demographic profile of the respondents. Further, I used these data to derive measures of cultural-ethnic and gender similarity, and professional status. A binary variable for cultural-ethnic similarity was created, with focal manager-peer dyads whose members reported similar ethnic backgrounds (e.g., white-white, Hispanic-Hispanic) coded 1 and those whose members reported different ethnic backgrounds coded 0. I created a similar binary measure for similarity in gender and one for the assessment of professional standing (attended a university at the master's or doctoral level = 1, at most an undergraduate degree = 0). This breakdown was appropriate because only 16 percent of the respondents did not already possess some sort of four-year university degree.

Performance. Tsui's three-item measure of reputational effectiveness (Tsui, 1984) and one additional item were used to measure focal manager and peer performance. Supervisors were asked to consider the total job, including job-specified duties, additional activities not formally required,

TABLE 2
Results of Confirmatory Factor Analysis for Exogenous Measures^a

Items	Lambdas
Interaction frequency	
How frequently does this individual initiate work-related interaction with you?	.95
How frequently do you initiate work-related interaction with this person?	.94
How frequently do you interact with this person at work?	.90
How frequently do you interact with this person informally or socially at work?	.66
Peer affiliative citizenship behavior	
I take time to listen to this person's problems and worries.	.82
I willingly help this individual, even at some cost to personal productivity.	.70
I have taken a personal interest in this individual.	.69
I pass on new information that might be useful to this person.	.65
I frequently do extra things I know I won't be rewarded for, but which make my cooperative efforts with this person more productive.	.61
When making decisions at work that affect this individual, I try to take his/her needs and feelings into account.	.54
I try not to make things more difficult for this person by my careless actions.	.34
Peer assistance-oriented citizenship behavior	
I help this person when (s)he has been absent.	.82
I help this person with difficult assignments, even when assistance is not directly requested.	.78
I assist this person with heavy work loads, even though it is not part of my job.	.74
Peer reliable role performance	
This person adequately completes assigned duties.	.76
This person performs all tasks that are expected of him/her.	.71
This person fulfills responsibilities specified in job description.	.64
This person meets formal performance requirements of the job.	.60

^a The lambdas are reported from the completely standardized solution. Chi-square with 129 degrees of freedom is 256.01 ($p < .001$). Comparative fit index is .90. Calculated from null of 1,688.53 with 153 degrees of freedom.

and the dependability of focal managers and peers, and to assess their satisfaction with various aspects of each target individual's job performance on a seven-point scale ranging from 1 (not at all) to 7 (entirely). Performance measures were found to be reliable ($\alpha = .92$). Table 3 reports confirmatory factor analysis results and item wordings.

Analyses

Using LISREL 7 (Anderson & Gerbing, 1988; Jöreskog & Sörbom, 1989), I took a two-stage approach to structural equation model fitting and assessment, assessing measurement properties of the model prior to considering structural relationships between constructs. Within the structural equation modeling framework used, multiple observed indicators (the individual scale items) were used to measure latent constructs. In testing the theoretical

TABLE 3
Results of Confirmatory Factor Analysis for Performance Measures^a

Items	Lambdas
Assessor rating of focal manager's performance	
Overall, to what extent do you feel that this person is performing his/her total job the way you would like it to be performed?	.96
To what extent has this person met all of your expectations in his/her roles and responsibilities?	.93
To what extent are you satisfied with the total contribution made by this person?	.82
If you had your way, to what extent would you change the manner in which this person is doing his/her job?	.71
Assessor rating of peer performance	
Overall, to what extent do you feel that this person is performing his/her total job the way you would like it to be performed?	.95
To what extent has this person met all of your expectations in his/her roles and responsibilities?	.94
To what extent are you satisfied with the total contribution made by this person?	.82
If you had your way, to what extent would you change the manner in which this person is doing his/her job?	.72

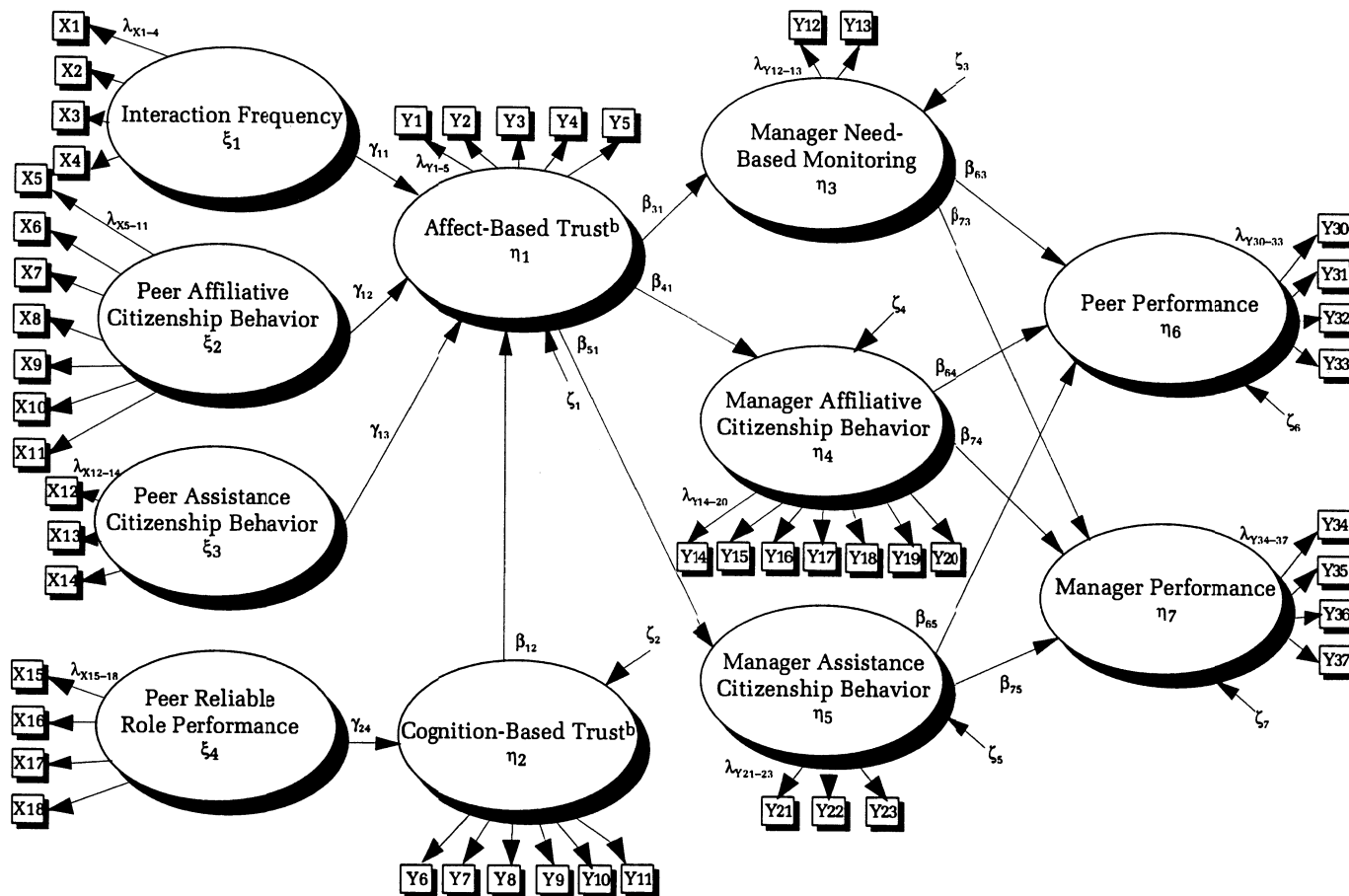
^a The lambdas are reported from the completely standardized solution. Chi-square with 19 degrees of freedom is 99.57 ($p < .001$). Comparative fit index is .93. Calculated from null of 1,245.73 with 28 degrees of freedom.

framework, I fitted 11 nested models, each incorporating different assumptions about model parameters, to the data.

The first two models were used to assess measurement properties. An initial null model specifying no relations among observable variables represented the poorest-fitting model and provided a baseline for computation of the normed comparative fit index. A measurement model with the paths between observable variables and associated latent constructs freed and latent constructs allowed to correlate freely was fitted to the data. As during measure development, I assessed the discriminant validity of constructs by constraining correlations among constructs to zero and examining the change in chi-square.

To test hypotheses concerning the structural relationships among variables, I took a nested-models approach (Anderson & Gerbing, 1988). I arrayed nine nested structural models between the measurement model—the best-fitting model, with structural relationships among latent constructs assumed to be perfectly estimated—and the null model and compared them using chi-square difference tests. First, the theoretical model, with all paths not specifically hypothesized to exist fixed to zero, was specified. Figure 2 presents the structural relationships in this model from which four variables—defensive behavior, control-based monitoring, social similarity, and professional status—are omitted. The combined measure of monitoring and defensive behavior was found to be insufficiently distinct from cognition-

FIGURE 2
Structural Parameters Included in the Theoretical Model^a



^a Error variances for observed variables (δ and ϵ elements) and correlations among latent exogenous variables (ϕ_{ij} elements) have been omitted for the sake of clarity.

^b Direction of relationship is from manager to peer.

based trust to warrant inclusion, and the categorical measures of social similarity (gender and ethnic background) and professional status were not suitable for inclusion within the LISREL model.³

In addition, three constrained-parameter and five relaxed-parameter models were fitted to the data. For the constrained models, I fixed the sets of relationships hypothesized to exist to zero and assessed chi-square difference tests between these models and the theoretical model. These tests indicated whether these models included paths that should have been omitted. The three constrained-parameter models can be specified as follows: in model C1, paths from exogenous variables to affect- and cognition-based trust are fixed to zero ($\gamma_{11} = \gamma_{12} = \gamma_{13} = \gamma_{24} = 0$); in model C2, paths from cognition- and affect-based trust to behavioral response measures are fixed to zero ($\beta_{31} = \beta_{41} = \beta_{51} = 0$); and in model C3, paths from behavioral response to performance measures are fixed to zero ($\beta_{63} = \beta_{64} = \beta_{65} = \beta_{73} = \beta_{74} = \beta_{75} = 0$). Examining the impact of sets of constrained paths in addition to examining the significance of individual paths is important where the constructs involved are significantly correlated (Niehoff & Moorman, 1993). A significant difference in fit between structural models would provide support for fundamental relationships hypothesized in the model.

For the relaxed-parameter models, I freed sets of structural paths fixed to zero in the theoretical model and conducted chi-square difference tests. These tests indicate the potential importance of relationships not yet specified. The five relaxed-parameter models examined can be specified as follows: in model R1, additional paths from exogenous variables to affect- and cognition-based trust are freed ($\gamma_{21}, \gamma_{22}, \gamma_{23}, \gamma_{14}$); in model R2, additional paths from cognition- and affect-based trust to behavioral response variables are freed ($\beta_{32}, \beta_{42}, \beta_{52}$); in model R3, paths from exogenous variables to behavioral response variables are freed ($\gamma_{31}, \gamma_{32}, \gamma_{33}, \gamma_{34}, \gamma_{41}, \gamma_{42}, \gamma_{43}, \gamma_{44}, \gamma_{51}, \gamma_{52}, \gamma_{53}, \gamma_{54}$); in model R4, paths from trust to performance are freed ($\beta_{61}, \beta_{62}, \beta_{71}, \beta_{72}$); and in model R5, paths from exogenous variables to performance are freed ($\gamma_{61}, \gamma_{62}, \gamma_{63}, \gamma_{64}, \gamma_{71}, \gamma_{72}, \gamma_{73}, \gamma_{74}$).

Given my focus on theory testing, I made no attempt to develop a best-fitting model by adding paths based on modification indexes, deleting non-significant variables and paths, allowing observable variables to load on more than one latent factor, allowing correlated measurement errors, and so forth. It should also be noted that reversals in causal ordering and reciprocal causation, especially as they concern the relationship between cognition- and affect-based trust, were not examined.⁴ Nevertheless, within the nested-

³ LISREL parameter estimates are distorted when categorical variables are included in the analysis as interval scale measures. PRELIS provides for the computation of "polychoric" correlation coefficients between categorical variables and "polyserial" correlation coefficients between categorical and continuous variables as substitutes for Pearson product-moment correlations, but this procedure requires a sample of more than 200 subjects and considerable computational power (Jöreskog & Sörbom, 1988, 1989).

⁴ For two reciprocally related parameters to be overidentified, it is necessary for each to

models framework, considering constrained-parameter models allowed for detection of potential errors of commission (specifying unnecessary relationships) and considering relaxed-parameter models allowed for identification of potential errors of omission (excluding relationships that might have theoretical and practical significance). A specific advantage of the nested-models approach to theory testing is its potential for exploring relationships, not yet included in a model, that may have theoretical relevance (Anderson & Gerbing, 1988).

In addition to structural equation modeling, ordinary-least-squares (OLS) regression analysis was used to examine Hypotheses 2b (the relationship between cultural-ethnic similarity and cognition-based trust) and 2c (the relationship between a peer's professional status and a manager's cognition-based trust). I regressed cognition-based trust on all causally prior (exogenous) variables. For this analysis, I computed scales as the average of their indicator items. Multiple regression analysis is well established as an acceptable method for path computation in path analysis (Pedhazur, 1982).

RESULTS

Assessment of the Measurement Model

Table 4 presents correlations among all study variables. Table 5 reports results from the nested-models analysis, including structural path coefficients and model fit statistics.

The measurement model represents a confirmatory factor analysis of all scales used in the study. The normed comparative fit assessments for the confirmatory factor analyses of portions of the model (see Tables 1, 2, and 3) all met or exceeded .90, a generally accepted standard for acceptability, but the comparative fit index for the measurement model was .87. This finding mirrors Niehoff and Moorman's (1993) observation that as the number of latent variables included in a model increases, a researcher's ability to fit models, even those with strong theoretical support, decreases. Given the fact that this analysis included 11 distinct latent constructs, the achieved model fit is reasonable.

Four correlations among latent measures exceeded .60: the relationships between peer affiliative and assistance-oriented citizenship behavior, focal manager affiliative and assistance-oriented citizenship behavior, focal manager-reported affect- and cognition-based trust, and focal manager affect-based trust and affiliative citizenship behavior. In part, these excessive coefficients reflect the fact that measures were obtained from a single source. As in initial scale development, I assessed discriminant validity by constraining phi coefficients (ϕ_{ij}) for pairs of constructs to 1.0 and conducting

have an instrument, an exogenous variable affecting one but not the corresponding variable (Kenny, 1979; Schaubroeck, 1990). In the case of the relationship between affect- and cognition-based trust, I found no significant instrument for cognition-based trust and accordingly, could not examine reciprocal causation.

TABLE 4
Correlations and Descriptive Statistics^a

Variables	Means	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Focal manager attitudes and behavior																
1. Cognition-based trust	5.43	1.29	(.91)													
2. Affect-based trust	4.71	1.47	.63***	(.89)												
3. Need-based monitoring	4.44	1.33	.01	.31***	(.69)											
4. Manager citizenship behavior, affiliative	5.23	0.98	.43***	.71**	.43***	(.79)										
5. Manager citizenship behavior, assistance	4.03	1.57	.19**	.48***	.48***	.67***	(.85)									
Peer attributes and behavior																
6. Reliable role performance	6.22	0.60	.06	-.07	-.05	.02	.07	(.77)								
7. Professional status	1.43	1.24	.09	.08	-.18**	.05	-.03	.05								
8. Peer citizenship behavior, affiliative	5.19	1.06	.13*	.39***	.23***	.32***	.27***	-.05	.07	(.81)						
9. Peer citizenship behavior, assistance	3.63	1.61	.09	.22**	.23***	.23***	.33***	-.03	.00	.52***	(.82)					
Relationship considerations																
10. Ethnic similarity	0.73	0.44	-.05	-.02	-.09	.00	-.01	-.08	.08	-.04	-.07					
11. Gender similarity	0.69	0.47	.03	.13*	.08	.15*	.16*	-.05	-.15*	.16*	.07	.03				
12. Interaction frequency	4.67	1.64	.19**	.39***	.34***	.35***	.41***	-.06	-.02	.49***	.40***	.04	.14*	(.91)		
Effectiveness measures																
13. Peer performance	5.06	1.27	.40***	.18**	-.08	.12	.03	.14*	.06	.13*	.10	-.13	-.09	.11	(.92)	
14. Focal manager performance	5.07	1.26	.15*	.26***	.02	.23**	.00	.05	.01	.16*	.06	-.05	-.08	.03	.22	(.92)

^a Cronbach's alphas appear on the diagonal for multiple-item measures.

* $p < .05$

** $p < .01$

*** $p < .001$

TABLE 5
Structural Parameter Estimates for Nested-Models Analysis^a

Path Coefficient	Measurement Model	Theoretical Model	Constrained Models			Relaxed Models					Null Model
			1	2	3	1	2	3	4	5	
β_{12}		.63***	.68***	.68***	.63***	.60***	.72***	.64***	.63***	.63***	
β_{31}		.36***	.36***		.37***	.38***	.92***	.25*	.36***	.37***	
β_{41}		.86***	.86***		.85***	.87***	1.20***	.81***	.85***	.86***	
β_{51}		.56***	.57***		.56***	.57***	1.07***	.48***	.56***	.56***	
β_{63}		-.20*	-.19*	-.15		-.20*	-.31***	-.20*	-.12	-.20*	
β_{64}		.31**	.31	.25**		.32***	.38**	.33***	.10	.23*	
β_{65}		-.12	-.12**	-.11		-.12	-.13	-.12	.00	-.15	
β_{73}		-.14	-.14	-.15		-.14	-.11	-.13	-.17	-.10	
β_{74}		.52***	.53***	.45***		.54***	.56***	.53***	.47*	.49***	
β_{75}		-.27***	-.27***	-.22**		-.27**	-.33**	-.29**	-.28**	-.25**	
γ_{11}		.22**		.19*	.22**	.20*	.21***	.20**	.22**	.22**	
γ_{12}		.24*		.26**	.24*	.22*	.17	.23*	.24*	.24*	
γ_{13}		-.02		-.06	-.02	-.02	.04	-.03	-.02	-.02	
γ_{24}		.07		.07	.07	.10	.06	.07	.08	.09	
γ_{14}						-.03					
γ_{21}						.15					
γ_{22}						.13					
γ_{23}						-.04					
β_{32}							-.75***				
β_{42}							-.44***				
β_{52}							-.67***				
γ_{31}								.23*			
γ_{32}								-.14			
γ_{33}								.27			
γ_{34}								-.11			

TABLE 5 (continued)

Path Coefficient	Measurement Model	Theoretical Model	Constrained Models			Relaxed Models			Null Model
			1	2	3	1	2	3	
γ_{41}								.06	
γ_{42}								-.07	
γ_{43}								.17	
γ_{44}								.07	
γ_{51}								.21*	
γ_{52}								-.28*	
γ_{53}								.37***	
γ_{54}								.05	
β_{61}									-.20
β_{62}									.50***
β_{71}									.13
β_{72}									-.11
γ_{61}									
γ_{62}									.06
γ_{63}									.16
γ_{64}									.01
γ_{71}									.23**
γ_{72}									-.15
γ_{73}									.17
γ_{74}									-.05
χ^2	1,843	2,032	2,068	2,230	2,061	2,025	1,973	1,999	.14
df	1,072	1,107	1,111	1,111	1,113	1,103	1,104	1,095	2,015
CFI	.87	.84	.84	.81	.84	.84	.85	.85	2,010
$\Delta\chi^2$	36***	198***	4	4	29***	7	59***	33***	1,103
Δdf	4	4	4	4	6	4	3	12	.85
									17
									5,057***
									8
									69

^a Standardized path coefficients are reported. They represent relationships between variables within the theoretical model presented in Figure 2. Chi-square difference tests were computed on the basis of the deviation from the theoretical model.

* $p < .05$

** $p < .01$

*** $p < .001$

chi-square difference tests. For each pair of constructs, constraining the correlation to 1.0 made model fit significantly worse. This finding that these measures are better understood as distinct than joined, although not ruling out the presence of common method variance, supports the argument that method covariation alone cannot adequately account for the relationships observed (Podsakoff & Organ, 1986).

Assessment of the Structural Model

Results from the nested-models analysis (Table 5) indicate that the theoretical model provides only a limited explanation for the structural relationships among the variables. The measurement model's comparative fit index of .87 approximates the fit that would be achieved (given the present data) with the structural portion of the LISREL model perfectly fitted. Accordingly, the theoretical model's index of .84 may appear reasonable. Yet a chi-square difference test comparing the two models indicates that the measurement model provides a significantly better fit to the data than does the theoretical model ($\Delta\chi^2 = 189$, $\Delta df = 58$, $p < .001$).

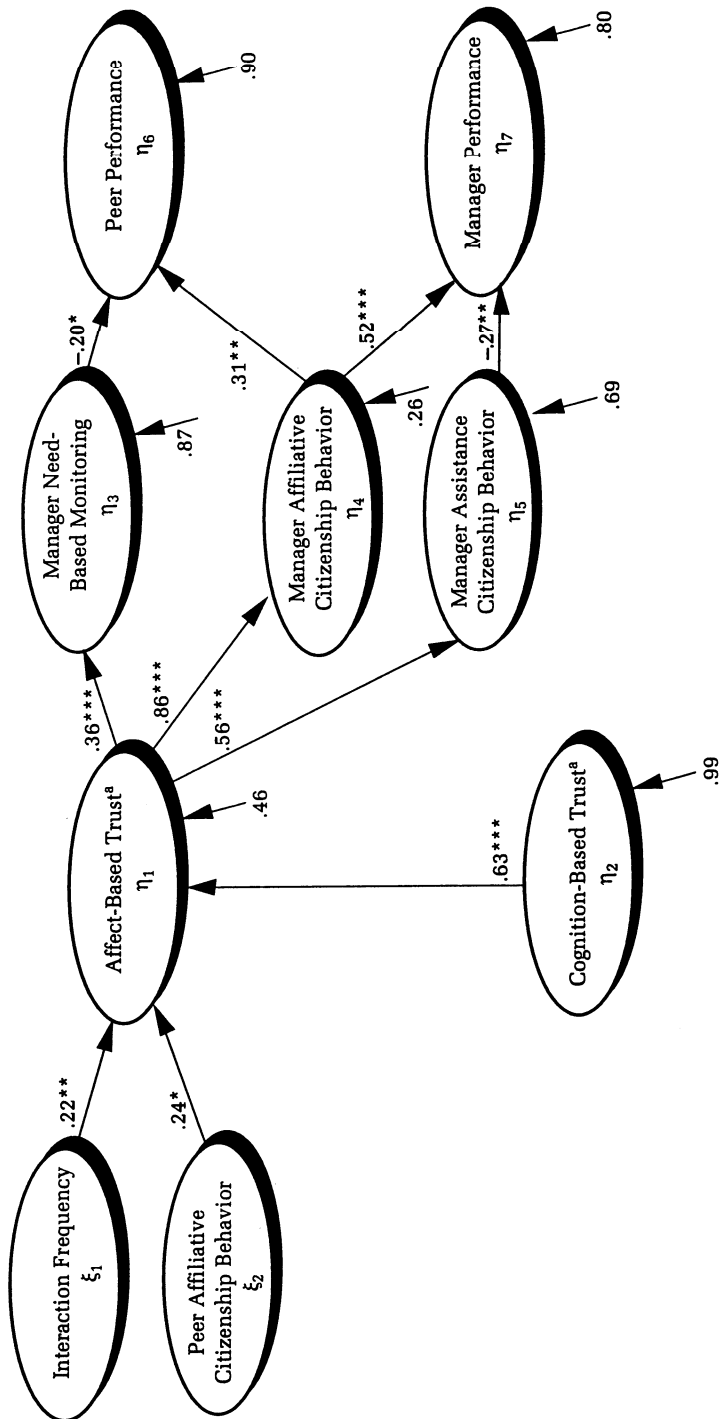
Figure 3 presents significant standardized path coefficients for the theoretical model. Also included are error terms (ζ s) for the structural equations. In standardized form, error coefficients represent the proportion of variance in each equation not accounted for in the structural model. Quite clearly, portions of the model fit the data better than others—for instance, 54 percent of the variance in affect-based trust was accounted for in the theoretical model, but only 10 percent of the variance in peer performance was explained. The theoretical framework may best be viewed as addressing antecedents and consequences of affect-based trust and not as comprehensively explaining the antecedents of performance.

Results from the nested-models analysis clarify the nature of the theoretical model's misspecification. In general, results of chi-square difference tests between that model and the constrained models indicate that fundamental relationships do exist between peer attributes and a focal manager's trust in peers, between the manager's trust in peers and his or her behavioral responses, and between those responses and performance outcomes. For each of the three constrained models, fit was significantly worse than the fit of the theoretical model. Thus, the paths that were included in the model should have been included. On the other hand, model fit assessments were significantly improved with the freeing of additional paths; those from focal manager trust beliefs (affect- and cognition-based) to behavioral responses, from antecedents to behavioral responses, and from trust to performance. Thus, considering additional relationships among study variables might enrich the model.

The Distinction Between Cognition- and Affect-Based Trust

Strong support was found for the distinction between cognition-based and affect-based trust predicted in Hypothesis 1. First, exploratory findings

FIGURE 3
Derived Path Coefficients Based on a Structural Equation Analysis of the Theoretical Model



^a Direction of relationship is from manager to peer.

* $p < .05$

** $p < .01$

*** $p < .001$

with parallel data and confirmatory analysis results with the present sample (Table 1) indicate that the two-factor representation of affect- and cognition-based trust fits the data well. The two factors were shown to be reliable. Second, the pattern of relationships between the forms of trust and the other variables included in the study differ considerably. In the theoretical model, peer affiliative citizenship behavior was found to be positively associated with focal manager affect-based trust in peers but unrelated to cognition-based trust. Combining insights derived from the theoretical model with observations from the relaxed model in which additional paths between focal manager trust in peers and behavioral responses are freed suggests that although a focal manager's affect-based trust in peers is positively associated with need-based monitoring of peers and assistance-oriented citizenship behavior, cognition-based trust may be negatively associated with these variables. Thus, affect-based trust and cognition-based trust represent distinct forms of interpersonal trust.

Interpersonal Hypotheses: Relating Peer Attributes and Behavior to Trust Perceptions

In general, peer attributes and behavior were found to be related to focal manager assessments of peer trustworthiness (Table 5). Model fit assessments were appreciably worse with paths from hypothesized antecedents to trust constrained to zero; the change in chi-square between the theoretical model and the first constrained model was 36, $p < .001$. Further analysis indicated, as is apparent in Figure 3, that relationships between peer attributes and affect-based trust in particular explain this finding.

It was hypothesized that a manager's cognition-based trust in peers would be greater under three conditions: when peers exhibited high levels of reliable role performance (Hypothesis 2a), when the parties had cultural-ethnic similarity (Hypothesis 2b), and when peers had strong professional credentials (Hypothesis 2c). Hypothesis 2a was examined in the structural equation assessment of the theoretical model (Figure 3). The path from reliable role performance to focal manager cognition-based trust was not significant. Hypotheses 2b and 2c were examined in the supplementary OLS regression analysis and were also not supported. Regression analysis results, in which level of cognition-based trust was regressed on all causally prior variables, were not significant ($F = 1.60$, n.s.). Thus, findings do not support Hypotheses 2a, 2b, and 2c.

Hypotheses 3a and 3b, however, were strongly supported. I hypothesized that focal managers would express strong affect-based trust in peers engaging in interpersonal citizenship behavior (Hypothesis 3a) and in those with whom the managers interacted frequently (Hypothesis 3b). Significant, positive paths from interaction frequency and peer affiliative citizenship behavior to affect-based trust ($\gamma_{11} = .22$, $p < .01$; $\gamma_{12} = .24$, $p < .05$) supported predictions. Assistance-based citizenship behavior, however, was not found to be associated with affect-based trust.

Intrapersonal Hypotheses: Relationships Among Trust Perceptions and Behavioral Responses

Hypotheses 4, 5, and 6, addressing relationships among focal manager beliefs about peer trustworthiness and focal manager behavior, were generally supported. First, the hypothesis that cognition-based trust would be a positive predictor of affect-based (Hypothesis 4) was strongly supported ($\beta_{12} = .63, p < .001$). Second, results of the nested-models analysis demonstrated that managers' assessments of peer trustworthiness were associated with the managers' behavior toward their peers. Fit assessments were appreciably worse with paths associating focal manager trust perceptions with focal manager behavioral responses (β_{31} , β_{41} , and β_{51}) constrained to zero ($\Delta\chi^2 = 198, p < .001$). As Hypotheses 5a and 5b, concerning the behavioral consequences of cognition-based trust, were not tested, this finding is best understood as substantiating relationships from affect-based trust to its behavioral consequences only.

Results supported the hypotheses predicting that the affect-based trust focal managers expressed in peers would be positively associated with the managers' need-based monitoring of peers (Hypothesis 6a) and interpersonal citizenship behavior toward them (Hypothesis 6b). Paths from focal manager affect-based trust in peers to need-based monitoring, affiliative citizenship behavior, and assistance-oriented citizenship behavior were, as shown in Figure 3, all significant ($\beta_{31} = .36, p < .001$; $\beta_{41} = .86, p < .001$; $\beta_{51} = .56, p < .001$).

Performance Implications Hypotheses

In general, the behavioral consequences of trust were found to be related to supervisor assessments of performance. As the results of the nested-models comparison of the theoretical model with the third constrained model indicate (Table 5), model fit assessments were appreciably worse with paths from behavioral response latent constructs to performance measures (β_{63} , β_{64} , β_{65} , β_{73} , β_{74} , and β_{75}) constrained to zero ($\Delta\chi^2 = 29, p < .001$). Hypotheses 7, 8, and 9 address specific relationships among behavioral response and performance variables. Again, as Hypotheses 7a and 7b were not tested in this analysis, findings are best understood as substantiating the relationship between the behavioral consequences of the affect-based trust and performance outcome measures.

Results also only partially supported Hypotheses 8a and 8b. Focal manager need-based monitoring of peers was not positively associated with supervisor assessments of focal manager performance as hypothesized (Hypothesis 8a). Nevertheless, consistent with Hypothesis 8b, the path from focal manager affiliative citizenship behavior directed toward peers to supervisor assessments of focal manager performance was significant ($\beta_{74} = .52, p < .001$). An interesting, nonhypothesized finding was a significant negative path from assistance-based citizenship behavior to focal manager performance ($\beta_{75} = -.27, p < .01$). It may be that people see expressive acts

of interpersonal help and assistance serving more of a maintenance than a task function as aiding performance but see other practical acts of help and assistance as detracting from performance. This anomalous finding suggests that organizations may particularly value the expressive qualities of interpersonal citizenship behavior. It may also be that expressive conduct is more salient to supervisors than task-oriented assistance.

Hypotheses addressing the relationship between focal manager behavior and peer performance (Hypothesis 9a and Hypothesis 9b) were not supported. Nested-models analysis results do not show focal manager need-based monitoring of peers to be positively associated with peer performance. Indeed, for the theoretical model, focal manager need-based monitoring of peers was found to be negatively associated with peer performance ($\beta_{63} = -.20, p < .05$). This finding may reflect manager's tendency to look for opportunities to assist peers in real need of assistance (signified by their having low performance assessments). That is, the true causal ordering may be the reverse of that depicted in Figure 2.

Consistent with Hypothesis 9b, a significant positive relationship between focal manager affiliative citizenship behavior and peer performance was observed in the theoretical model ($\beta_{64} = .31, p < .01$). Yet when I examined this relationship at the same time as possible direct relationships between trust and performance outcomes, in the fourth relaxed model, this path was nonsignificant.

In summary, results did not support the hypotheses concerning the antecedents of cognition-based trust (2a through 2c). They did support hypotheses concerning the antecedents of affect-based trust (3a, 3b, and 4). The hypotheses concerning the behavioral consequences and performance implications of cognition-based trust were not tested. The hypotheses concerning the behavioral consequences of affect-based trust (6a and 6b) were supported. Partial support emerged for two of four hypotheses concerning the performance implications of affect-based trust.

DISCUSSION

The Nature of Interpersonal Trust

The findings of this research indicate that the beliefs of managers about the trustworthiness of peers can be measured along two dimensions, the extent of affect-based trust and the extent of cognition-based trust. In general, levels of cognition-based trust were higher than levels of affect-based trust, a finding consistent with the understanding that some level of cognition-based trust is necessary for affect-based trust to develop. Further, results indicate that, although cognition- and affect-based trust may be causally connected, each form of trust functions in a unique manner and has a distinct pattern of association to antecedent and consequent variables.

More theoretical work is needed to address the factors that can influence the development of cognition-based trust; such information should enrich

understanding of cognition-based trust itself. Theory-based predictors of cognition-based trust—a peer's reliable role performance, professional credentials, and social-ethnic similarity—were not found to be associated with cognition-based trust. One factor not addressed in the study was the local reputation of a peer as dependable and reliable. Supervisor assessments of peer performance were found to be strongly associated with a focal manager's cognition-based beliefs about peer trustworthiness ($r = .40, p < .001$). Quite likely, what others think about the dependability of a peer will influence personal evaluations of that peer. Future research will need to address reputational effects.

Observed differences in the pattern of relationships between forms of trust and predictor and consequence variables underscore the importance of considering not only the level but also the form of trust. In past research on citizenship behavior in organizations, authors have argued that trust and citizenship behavior are positively associated (Organ, 1990; Podsakoff et al., 1990). The present research indicates that there may be negative relationships between a focal manager's cognition-based trust in a peer and his or her affiliative- and assistance-oriented citizenship behavior toward the peer ($\beta_{42} = -.44, p < .001$; $\beta_{52} = -.67, p < .001$).⁵

Interpersonal Trust and Coordination

Focal managers expressing high affect-based trust in peers were shown to be more inclined to look for opportunities to meet peers' work-related needs and to engage in productive intervention. In the complex, uncertain situations involving reciprocal interdependence, typical in managerial and professional work, traditional mechanisms of coordination (rules, plans, routines, and such) are usually inadequate as contingencies cannot always be properly planned for (Katz, 1964; Thompson, 1967). Under these conditions, coordination is a continuous process in which all the actors involved adjust their actions to one another (Follett, 1937) and self-initiated mechanisms of coordination are critical. Need-based monitoring and citizenship behavior represent self-initiated steps that can promote coordination under turbulent conditions.

Findings did not generally support the hypotheses addressing the performance implications of behavioral responses to trust. One notable exception was the positive relationship found between focal manager affiliative citizenship behavior and supervisor assessments of focal manager performance. Interestingly enough, focal manager assistance-based citizenship behavior was negatively associated with supervisor assessments of focal manager performance. As defined here, affiliative citizenship behavior differed from assistance-oriented citizenship behavior in that it involved personal

⁵ This finding may not be all that surprising. An individual who sees a peer as dependable and reliable, competent and capable, may have little reason to offer assistance, as little assistance appears to be needed.

assistance, was affect-laden and expressive, and served more of a maintenance than a task function. The logic behind managers' placing greater value on affiliative citizenship behavior than on more practical acts of interpersonal help and assistance merits systematic attention in future research.

The Social Fabric of Managerial Working Relationships

The current findings demonstrate the importance of affect-based trust relationships and the expressive qualities of interpersonal behavior. These findings extend current thinking on the nature of personal relationships among managers and professionals in organizations. Management scholars have recognized for some time that a considerable amount of managerial work is accomplished through interpersonal interaction and that the nature of the interpersonal relationships between managers and peers can determine their ability to get work accomplished (Gabarro, 1990; Mintzberg, 1973; Sayles, 1979). Less acknowledged, however, has been the affective element of these interpersonal relationships. The understanding has been that "because working relationships generally exist to accomplish tasks while social relationships [do] not, task achievement, task instrumentality and task-specific competence are especially important in work relationships, while affect and self-disclosure are less important" (Gabarro, 1990: 79). Given this view of affective factors as being somehow less important, their role in ongoing working relationships has remained unaddressed. In contrast, the focus here was on the inherent social nature of managerial work and on enhancing understanding of working relationships in organizations by recognizing their commonalities with other types of social relationships.

The expressive qualities of behavior in organizations should receive more systematic treatment in future research. Findings from the present theoretical model show that peer affiliative citizenship behavior in particular, rather than citizenship behavior in general, is associated with managers' affect-based trust in peers and that peer affiliative citizenship behavior is associated with managers' affiliative citizenship behavior only indirectly, through affect-based trust. Exploratory findings from a relaxed-parameter model with paths from antecedents of trust to managers' behavioral responses freed show peer assistance-based citizenship behavior to be positively associated with managers' assistance-oriented citizenship behavior ($\gamma_{53} = .37, p < .001$) but not with affect-based trust. It appears that managers distinguish between instrumental assistance from peers, which generates debts, and assistance from peers that is primarily demonstrative or expressive. As Kahn (1993) observed, exchanges of resources, time, information, counseling, and services can all serve more than instrumental purposes and, with appropriate affective content, can function as essential mechanisms of social support. In a study of interpersonal dyadic relationships within network-form organizations, Larson quoted an executive as stating, "The [extra] effort to help is as important as the help itself. The relationship has to be attended to" (1992: 89).

It appears that it is not unusual for managers, even those from different

areas of functional specialization and different organizational units, to develop relationships of care and concern for one another and for such sentiments to constitute an important basis for trust. Indeed, over 60 percent of the focal managers in this study, discussing their beliefs about their trust in peers, believed that, to some extent, they could talk freely with a specific peer and know that he or she would want to listen and respond constructively and caringly. Approximately 50 percent of the respondents believed that both they and the specific peers had made significant emotional investments in the working relationships and that both would feel a sense of loss if one or the other were transferred and they could no longer work together.

These findings support Seabright and colleagues' contention that "it is hard to imagine the development of highly specific relationship capital that does not engender some element of social ties" (1992: 155). Granovetter's general observation that "continuing economic relations often become overlaid with social content that carries strong expectations of trust and abstention from opportunism" (1985: 490) can be given added specificity—the sentiments of care and concern that connect individuals provide a principal foundation for this trust. Despite the prevalence of relationships of affect-based trust, very little theory or data exist to either guide understanding of the implications of such trust relationships for the individuals involved and their organizations or to distinguish these relationships from those based solely on cognition-based trust. The present research is an initial step toward articulating a theoretical framework for future research on how relationships of affect-based trust between managers in organizations influence their behavior and performance.

Study Limitations

The present findings should be interpreted in light of the study's limitations. First, because almost 75 percent of the study's participants were highly educated men, the findings are best interpreted as evidence concerning working relationships between such individuals. Further research is needed to establish the generalizability of these findings to other sorts of working relationships. Second, given the cross-sectional design, causality cannot be established from this study alone. My focus was on examining whether the pattern of relationships among variables was consistent with a specific causal understanding (Bobko, 1990). The present findings are an initial step on the road to causality determination. Supplemental longitudinal field studies and controlled laboratory experiments will both prove useful in future research. Finally, the disciplined confirmatory assessment of the theoretical framework through the nested-models analysis indicates that there remains considerable room for improvement in the fit of the theoretical model. Insights from the relaxed-parameter analyses, including possible negative paths from cognition-based trust in peers to need-based monitoring, affiliative citizenship behavior, and assistance-oriented citizenship behavior, indicate ways in which the model can be enriched, but these insights

must be understood as exploratory. Further theoretical and empirical work is needed to demonstrate that these findings are not unique to this sample and study.

Conclusion

This article assesses a theoretical framework for studying interpersonal trust in organizations, the factors influencing the development of trust relationships, and the mechanisms by which trust influences behavior in interdependent relationships and ultimately, the efficiency with which coordinated action is maintained. Empirical findings from an initial test of the framework support the fundamental distinction made between two principal forms of trust and the argument that each form should be understood. Further, the results of the research point to the importance of understanding the affective qualities of working relationships and the expressive qualities of various forms of interpersonal conduct.

Over fifteen years ago Burns (1977) expressed concern over existing conceptions of the role of the informal social relationships in organizations. Burns noted that Roethlisberger and Dickson saw the informal organization "as a receptacle for observations about the behavior, relationships, the sentiments and beliefs . . . taken to be irrelevant to the formal organization or incompatible with it," and that Barnard saw it as "an essential adjunct to formal organization." For Burns the theoretical and practical relevance of the informal organization went much further. He argued that "essential organizational processes involving actual operations and work are grounded in the person-to-person relationships formed by people at work, and as such constitute the necessary counterpart and complement to the control systems maintained by the management structure" (1977: 308).

In the present research, informal relations have been examined with the understanding that they are central to the real work of organizations. Findings establish the affective foundations upon which trust between managers is built as an essential counterpart to other foundations for interpersonal trust and highlight affect-based trust's role in facilitating effective coordinated action in organizations.

REFERENCES

- Alchian, A. A., & Demsetz, H. 1972. Production, information costs, and economic organization. *American Economic Review*, 62: 777-795.
- Anderson, J. C., & Gerbing, D. W. 1988. Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 193: 411-423.
- Arrow, K. 1974. *The limits of organization*. New York: Norton.
- Ashforth, B. E., & Lee, R. T. 1990. Defensive behavior in organizations: A preliminary model. *Human Relations*, 43: 621-648.
- Bagozzi, R. P., & Yi, Y. 1988. On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16: 74-94.
- Baier, A. 1985. Trust and antitrust. *Ethics*, 96: 231-260.

- Baker, G. P., Jensen, M. C., & Murphy, K. J. 1988. Compensation and incentives: Practice vs. theory. *Journal of Finance*, 43: 593–616.
- Barber, B. 1983. *The logic and limits of trust*. New Brunswick, NJ: Rutgers University Press.
- Bentler, P. M. 1990. Comparative fit indexes in structural models. *Psychological Bulletin*, 107: 238–246.
- Bobko, P. 1990. Multivariate correlational analysis. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (2d ed.), vol. 1: 636–686. Palo Alto, CA: Consulting Psychologists Press.
- Bradach, J. L., & Eccles, R. G. 1989. Price, authority, and trust: From ideal types to plural forms. *Annual Review of Sociology*, 15: 97–118.
- Drewer, M. B. 1979. In-group bias in the minimal intergroup situation: A cognitive-motivational analysis. *Psychological Bulletin*, 86: 307–324.
- Brief, A. P., & George, J. M. 1992. Feeling good—doing good: A conceptual analysis of the mood at work-organizational spontaneity relationship. *Psychological Bulletin*, 112: 310–329.
- Burke, M. J., Brief, A. P., George, J. M., Roberson, L., & Webster, J. 1989. Measuring affect at work: Confirmatory analyses of competing mood structures with conceptual linkages to cortical regulatory systems. *Journal of Personality and Social Psychology*, 57: 1091–1102.
- Burns, T. 1977. *The BBC: Public institution and private world*. New York: Holmes & Meier Publishers.
- Butler, J. K. 1991. Towards understanding and measuring conditions of trust: Evolution of a conditions of trust inventory. *Journal of Management*, 17: 643–663.
- Clark, M. S. 1984. Record keeping in two types of relationships. *Journal of Personality and Social Psychology*, 47: 549–557.
- Clark, M. S., & Mills, J. 1979. Interpersonal attraction in exchange and communal relationships. *Journal of Personality and Social Psychology*, 37(1): 12–24.
- Clark, M. S., Mills, J., & Corcoran, D. M. 1989. Keeping track of needs and inputs of friends and strangers. *Personality and Social Psychology Bulletin*, 15: 533–542.
- Clark, M. S., Mills, J., & Powell, M. C. 1986. Keeping track of needs in communal and exchange relationships. *Journal of Personality and Social Psychology*, 51: 333–338.
- Clark, M. S., & Waddell, B. 1985. Perceptions of exploitation in communal and exchange relationships. *Journal of Social and Personal Relationships*, 2: 403–418.
- Cook, J., & Wall, T. 1980. New work attitude measures of trust, organizational commitment and personal need nonfulfillment. *Journal of Occupational Psychology*, 53: 39–52.
- Deutsch, M. 1973. *The resolution of conflict: constructive and destructive processes*. New Haven: Yale University Press.
- Fichman, M., & Levinthal, D. A. 1991. Honeymoons and the liability of adolescence: A new perspective on duration dependence in social and organizational relationships. *Academy of Management Review*, 16: 442–468.
- Follett, M. P. 1937. The process of control. In L. Gulick & L. Urwick (Eds.), *Papers on the science of administration*: 161–169. New York: Institute of Public Administration.
- Fox, A. 1974. *Beyond contract: Work, power and trust relations*. London: Faber & Faber.
- Gabarro, J. 1990. The development of working relationships. In J. Gallagher, R. E. Kraut, & C. Egidio (Eds.), *Intellectual teamwork: Social and technological foundations of cooperative work*: 79–110. Hillsdale, NJ: Erlbaum.
- Granovetter, M. S. 1985. Economic action and social structure: The problem of embeddedness. *American Journal of Sociology*, 91: 481–510.

- Griesinger, D. W. 1990. The human side of economic organization. *Academy of Management Review*, 15: 478–490.
- Holmes, J. G. 1978. The exchange process in close relationships: Microbehaviors and macro-motives. In M. J. Lerner & S. C. Lerner (Eds.), *The justice motive in social behavior: Adapting to times of scarcity and change*: 261–284. New York: Plenum.
- Holmes, J. G., & Rempel, J. K. 1989. Trust in close relationships. In C. Hendrick (Ed.), *Close relationships*: 187–220. Newbury Park: Sage.
- Isen, A. M., & Baron, R. A. 1991. Positive affect as a factor in organizational behavior. In L. L. Cummings & B. M. Staw (Eds.), *Research in organizational behavior*, vol. 13: 1–53. Greenwich, CT: JAI Press.
- Johnson-George, C. E., & Swap, W. C. 1982. Measurement of specific interpersonal trust: Construction and validation of a scale to assess trust in a specific other. *Journal of Personality and Social Psychology*, 43: 1306–1317.
- Jöreskog, K. G., & Sörbom, D. 1988. *PRELIS*. Mooresville, IN: Scientific Software.
- Jöreskog, K. G., & Sörbom, D. 1989. *LISREL 7*. Mooresville, IN: Scientific Software.
- Kahn, R. L., Wolfe, D. M., Quinn, R. P., & Snoek, J. D. 1964. *Organizational stress: Studies in role conflict and ambiguity*. New York: Wiley.
- Kahn, W. A. 1993. Caring for the caregivers: Patterns of organizational caring. *Administrative Science Quarterly*, 38: 539–563.
- Katz, D. 1964. The motivational basis of organizational behavior. *Behavioral Science*, 9: 131–146.
- Kelly, H. H. 1979. *Personal relationships: Their structures and process*. Hillsdale, NJ: Erlbaum.
- Kenny, D. A. 1979. *Correlation and causality*. New York: Wiley.
- Larson, A. 1992. Network dyads in entrepreneurial settings: A study of the governance of exchange relationships. *Administrative Science Quarterly*, 37: 76–104.
- Lewis, J. D., & Weigert, A. 1985. Trust as a social reality. *Social Forces*, 63: 967–985.
- Light, I. 1984. Immigrant and ethnic enterprise in North America. *Ethnic and Racial Studies*, 7: 195–216.
- Lindsfold, S. 1978. Trust development, the GRIT proposal, and the effects of conciliatory acts on conflict and cooperation. *Psychological Bulletin*, 85: 772–793.
- Longenecker, C. O., Jaccoud, A. J., Sims, H. P., Jr., & Gioia, D. A. 1992. Quantitative and qualitative investigations of affect in executive judgment. *Applied Psychology: An International Review*, 41: 21–41.
- Luhmann, N. 1979. *Trust and power*. Chichester: Wiley.
- MacKenzie, S. B., Podsakoff, P. M., & Fetter, R. 1991. Organizational citizenship behavior and objective productivity as determinants of managerial evaluations of salespersons' performance. *Organizational Behavior and Human Decision Processes*, 50: 123–150.
- Mintzberg, H. 1973. *The nature of managerial work*. New York: Harper & Row.
- Niehoff, B. P., & Moorman, R. H. 1993. Justice as a mediator of the relationship between methods of monitoring and organizational citizenship behavior. *Academy of Management Journal*, 36: 527–556.
- Organ, D. W. 1988. *Organizational citizenship behavior: The good soldier syndrome*. Lexington, MA: Lexington Books.
- Organ, D. W. 1990. The motivational basis of organizational citizenship behavior. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior*, vol. 12: 43–72. Greenwich, CT: JAI Press.

- Organ, D. W., & Konovsky, M. 1989. Cognitive versus affective determinants of organizational citizenship behavior. *Journal of Applied Psychology*, 74: 157–164.
- Ouchi, W. G. 1979. A conceptual framework for the design of organizational control mechanisms. *Management Science*, 25: 833–848.
- Park, O. S., Sims, H. P., Jr., & Motowidlo, S. J. 1986. Affect in organizations: How feelings and emotions influence managerial judgment. In H. P. Sims, Jr., & D. A. Gioia (Eds.), *The thinking organization*: 215–237. San Francisco: Jossey-Bass.
- Pearce, J. L., & Gregerson, H. B. 1991. Task interdependence and extrarole behavior: A test of the mediating effects of felt responsibility. *Journal of Applied Psychology*, 76: 838–844.
- Pedhazur, E. J. 1982. *Multiple regression in behavioral research: Explanation and prediction* (2d ed.). New York: Holt, Rinehart, & Winston.
- Pennings, J. M., & Woiceshyn, J. 1987. A typology of organizational control and its metaphors. In S. B. Bacharach & S. M. Mitchell (Eds.), *Research in the sociology of organizations*, vol. 5: 75–104. Greenwich, CT: JAI Press.
- Podsakoff, P. M., MacKenzie, S. B., Moorman, R. H., & Fetter, R. 1990. Transformational leader behaviors and their effects on followers' trust in leader, satisfaction, and organizational citizenship behaviors. *Leadership Quarterly*, 1: 107–142.
- Podsakoff, P. M., & Organ, D. W. 1986. Self-reports in organizational research: Problems and prospects. *Journal of Management*, 12: 531–544.
- Porter, L. W., Lawler, E. E., & Hackman, J. R. 1975. *Behavior in organizations*. New York: McGraw-Hill.
- Rempel, J. K., Holmes, J. G., & Zanna, M. D. 1985. Trust in close relationships. *Journal of Personality and Social Psychology*, 49: 95–112.
- Rotter, J. B. 1971. Generalized expectancies for interpersonal trust. *American Psychologist*, 35: 1–7.
- Sayles, L. R. 1979. *Leadership: What effective managers really do . . . and how they do it*. New York: McGraw-Hill.
- Schaubroeck, J. 1990. Investigating reciprocal causation in organizational behavior research. *Journal of Organizational Behavior*, 11: 17–28.
- Seabright, M. A., Leventhal, D. A., & Fichman, M. 1992. Role of individual attachments in the dissolution of interorganizational relationships. *Academy of Management Journal*, 35: 122–160.
- Shapiro, S. P. 1987. The social control of impersonal trust. *American Journal of Sociology*, 93: 623–658.
- Shapiro, S. P. 1990. Collaring the crime, not the criminal: Reconsidering the concept of white-collar crime. *American Sociological Review*, 55: 346–365.
- Simmel, G. 1964. *The sociology of Georg Simmel* (K. H. Wolff, trans.). New York: Free Press.
- Smith, C. A., Organ, D. W., & Near, J. P. 1983. Organizational citizenship behavior: Its nature and antecedents. *Journal of Applied Psychology*, 68: 653–666.
- Stack, L. C. 1988. Trust. In H. London & J. E. Exner, Jr. (Eds.), *Dimensionality of personality*: 561–579. New York: Wiley.
- Thompson, J. D. 1967. *Organizations in action*. New York: McGraw-Hill.
- Tsui, A. S. 1984. A role-set analysis of managerial reputation. *Organizational Behavior and Human Performance*, 34: 64–96.
- Tsui, A. S., & Barry, B. 1986. Interpersonal affect and rating errors. *Academy of Management Journal*, 29: 586–599.

- Turner, J. C. 1987. *Rediscovering the social group: A self-categorization theory*. Oxford: Blackwell.
- Williams, L. J., & Anderson, S. E. 1991. Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *Journal of Management*, 17: 601–617.
- Williamson, O. E. 1974. *Markets and hierarchies*. New York: Free Press.
- Wilson, D. O. 1988. *Effects of task uncertainty upon link multiplexity for high and low performance project teams*. Unpublished doctoral dissertation, University of California, Irvine.
- Zajonc, R. B. 1980. Feelings and thinking: Preferences need no inferences. *American Psychologist*, 35: 151–175.
- Zucker, L. G. 1986. The production of trust: Institutional sources of economic structure, 1840–1920. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior*, vol 8: 55–111. Greenwich, CT: JAI Press.

Daniel J. McAllister is an assistant professor of management in the School of Business Administration at Georgetown University. He received his Ph.D. degree in organizational behavior from the University of California, Irvine. His research emphasizes the social or relational foundations of work attitudes, including interpersonal and institution-directed trust and affect, and behaviors, including citizenship-type behavior and other forms of nonmandated conduct.