

Relational Correlates of Interpersonal Citizenship Behavior: A Social Network Perspective

Wm. Matthew Bowler
University of North Texas

Daniel J. Brass
University of Kentucky

This study examines the role of social network ties in the performance and receipt of interpersonal citizenship behavior (ICB), one form of organizational citizenship behavior (OCB). A field study involving 141 employees of a manufacturing firm provided evidence that social network ties are related to the performance and receipt of ICB. Results support hypothesized relationships, which are based on social exchange theory, suggesting strength of friendship is related to performance and receipt of ICB. Support was also found for impression management-based hypotheses suggesting that asymmetric influence and 3rd-party influence are related to the performance and receipt of ICB. These relationships were significant when controlling for job satisfaction, commitment, procedural justice, hierarchical level, demographic similarity, and job similarity. Implications and directions for future research are addressed.

Keywords: social networks, interpersonal citizenship behavior, friendship, influence, third parties

Since Katz's (1964) suggestion that organizations depending entirely on job descriptions to elicit employee behaviors would be likely to experience poor performance, there has been a great deal of research on extrarole behaviors in organizations. Bateman and Organ (1983) operationalized the construct *organizational citizenship behavior* (OCB) and set in motion 20 years of intense study on the subject (Niehoff & Moorman, 1993; Podsakoff, MacKenzie, Paine, & Bachrach, 2000; Tepper & Taylor, 2003; Wagener & Rush, 2000; Organ, 1988; Podsakoff, Ahearne, & MacKenzie, 1997; Koys, 2001; MacKenzie, Podsakoff, & Ahearne, 1998). One important component of OCB is *interpersonal citizenship behavior* (ICB) (Settoon & Mossholder, 2002), also referred to as *altruism* (Moorman, 1993), *helping* (Lepine & Van Dyne, 2001), or *OCB-I* (Williams & Anderson, 1991).

Interpersonal citizenship behavior occurs when coworkers assist one another beyond their job requirements in such a way that results, either directly or indirectly, in enhanced individual job performance and ultimately contributes to group and organizational functioning (Bateman & Organ, 1983; Settoon & Mossholder, 2002). This includes *helping* as defined by Van Dyne and LePine (1998), *task-focused ICB* as defined by Settoon and Mossholder (2002), and *altruism* as defined by Organ (1988). ICB tends to be more task oriented in nature but overlaps with definitions of person-focused ICB (Settoon & Mossholder, 2002), interpersonal

facilitation such as cooperation and consideration (Van Scotter & Motowidlo, 1996), cooperating with others (Borman & Motowidlo, 1997), and the more broad social participation (Van Dyne, Graham, & Dienesch, 1994). For example, when an employee volunteers to help a fellow employee complete a project, perform a task, or solve a problem, he or she would be performing ICB (Organ, 1988; Moorman, Blakely & Niehoff, 1998). Interpersonal citizenship behaviors enhance individual and group productivity, free up resources, increase coordination, and aid in the maintenance of a favorable work climate even more than do noninterpersonally focused OCB (Podsakoff et al., 2000).

We focus on ICB rather than the broader construct of OCB because research has suggested a focus on correlates unique to specific elements of OCB (Podsakoff et al., 2000; Settoon & Mossholder, 2002). Whereas some research suggests that various elements of OCB are correlated (Lepine, Erez, & Johnson, 2002), other researchers have shown that employees choose which of the OCB elements they will perform rather than performing all types of OCB uniformly (Settoon & Mossholder, 2002; Organ, 1997; Van Dyne, Cummings, & McLean-Parks, 1995). Various elements of OCB are different and have different correlates. This difference is especially evident between the two broad categories of OCB: OCB-O (organizationally focused) and OCB-I (individually focused; Williams & Anderson, 1991). ICB requires a specific recipient, which is not necessary for the performance of other elements of OCB.

When choosing to perform different OCB elements, employees consider both the target and/or the beneficiary of the behavior (Settoon & Mossholder, 2002; Williams & Anderson, 1991). Individually focused ICB has a different target, another employee, than does organizationally focused OCB. For example, employees who do not have positive feelings toward the organization (such as job satisfaction) may be unlikely to perform OCB directed at the organization. However, these same individuals may have friends in the organization and want to help their friends and/or help others in order to manage others' impressions of them. From an impression management perspective the same individual may help others

Wm. Matthew Bowler, Department of Management, College of Business Administration, University of North Texas; Daniel J. Brass, Gatton College of Business & Economics, University of Kentucky.

We thank Carrie Bowler, Michelle Duffy, Jason Shaw, Krish Muralidhar, Monica Kern, Steve Borgatti, Matthew T. Seevers, Vicki Goodwin, Mark Bolino, and Katherine Klein for their insightful comments on drafts of this article.

Correspondence concerning this article should be addressed to Wm. Matthew Bowler, 317G College of Business Administration, University of North Texas, P.O. Box 305429, Denton, TX 76201. E-mail: bowlerm@unt.edu

that they do not like in order to manage their image within the organization. These things suggest that ICB is substantially different from the other OCB elements. Following the suggestions to dig deeper into the specific elements of OCB and to inform the debate regarding the relationship between OCB elements (Podsakoff et al., 2000; Settoon & Mossholder, 2002), our study focuses on ICB.

Historically, antecedents to OCB included attitudinal variables such as organizational commitment, job satisfaction, or, more recently, procedural justice (Niehoff & Moorman, 1993; Podsakoff et al., 2000; Tepper & Taylor, 2003; Wagener & Rush, 2000). Still other research has examined job and individual characteristics of helping and help seeking (Anderson & Williams, 1996). These individual, attitudinal variables that provide good explanatory power fail to account for the interpersonal nature of ICB (Korsgaard, Meglino, & Lester, 1997). Our study shifts the focus from individual attitudinal variables to relational variables such as interpersonal friendship and influence. To examine these interpersonal relationships, we use *social network analysis*, a perspective specifically designed to focus on relationships. As Anderson and Williams (1996) suggest, ICB “processes can be understood by using a dyadic (relationship) framework” (p. 293). A social network perspective assumes that an individual’s behavior is not driven solely by his or her personal disposition or attitudes. Instead, the characteristics of relationships and the networks of relationships affect the attitudes and behavior of individual network actors (Scott, 2000). Controlling for individual attitudes, we focus our study on the relational ties between individuals and how these relationships relate to the performance and receipt of ICB. By focusing on the interpersonal relationships suggested by a social network perspective, we are able to not only predict who will perform ICB but also who will receive ICB.

Though two people might reciprocate each other’s ICB, it is probable that not all ICB is reciprocated and that those who receive ICB are not necessarily the same people who are likely to perform ICB. For example, influential employees may be the recipients of ICB but not necessarily the performers of ICB. It is not necessary for employees to help only those individuals that help them; they may pass on the help to others in a “pay it forward,” pass it on manner. Additionally, there may be conceptual differences in the correlates of the performance and receipt of ICB. On the basis of these reasons, it is important to study ICB performance and receipt as separate, but related, variables.

Receipt of ICB is a construct rarely studied in previous OCB research, although prior research based on attribution theory has examined reasons why coworkers choose to help low performers (Jackson & LePine, 2003). Still other research has examined job and individual characteristics of helping and help seeking (Anderson & Williams, 1996). Our research complements this prior work by examining the relationships between coworkers by using social network analysis as a tool to determine the types of relationships that lead to ICB receipt.

A social network perspective suggests that relationships are important, and social network analysis provides the analytic tools for studying relationships. However, our study is driven by two theories that suggest relationships are important in understanding ICB. First, many studies of OCB have used social exchange theory (Blau, 1964, 1986) as the basis for predicting citizenship behavior. Social exchange theory predicts that when employers provide their employees with positive work experiences, the employees will

reciprocate through the performance of OCB. Despite the exchange focus of this theory, OCB researchers have largely failed to address the possible exchange between employees; rather, the focus has been on attitudinal variables such as job satisfaction that reflect an exchange between employee and organization. Research has largely ignored individual relationships between employees.

In addition to social exchange theory, some researchers view OCB as an attempt at impression management (Bolino, 1999). This view suggests that extra effort and performance are efforts to enhance others’ opinions of the employee rather than attempting to reciprocate an organization’s actions. Impression management is inherently relational—it involves one individual impressing another. Thus, it also suggests that relationships between employees may be important in the study of ICB.

We use both social exchange theory and impression management theory to suggest relationships that may be related to ICB. These two theories are not mutually exclusive or incompatible. It is possible that employees perform a particular ICB for both social exchange and impression management reasons. Our rationale for the hypotheses is based on the theory that seems more likely to explain the behavior. Figure 1 outlines the hypotheses that we address.

Social Exchange and Strength of Friendship

Although OCB researchers have suggested that employees will reciprocate feelings of job satisfaction and commitment through the performance of OCB, these researchers have not considered reciprocation between individuals. Although it seems intuitive that friends will perform ICB for each other, this relationship has largely been ignored in previous OCB research. We test this prediction by examining the strength of friendship ties among employees. Strong friendship ties lead to reciprocity and social exchange. Friendship facilitates the allowance of short-term inequity necessary in order for social exchange to occur. Following social exchange theory, the performer of an ICB must feel that although ICB performed for another will not be immediately reciprocated, equitable reciprocation will occur sometime in the future. It is also possible that no reciprocation is expected; employees perform ICB simply because they like another person. Not only are you likely to perform ICB for a friend, you are also likely to receive ICB from a friend. Alternatively, if employees are linked only by a weak relationship with little familiarity and little or no prior exchange experiences, the probability of performance or receipt of ICB will be low. Therefore, we expect that the strength of friendship between two actors will be associated with both the performance and receipt of ICB.

Hypothesis 1A: Strength of friendship will be positively related to performance of ICB.

Hypothesis 1B: Strength of friendship will be positively related to receipt of ICB.

Social Exchange and Third-Party Friendship

Third-party friendships (friend of a friend) are those in which two individuals who are not friends are connected to a common friend by a strong friendship tie. Social exchange theory suggests the possibility of exchange between third-party friendships. Two

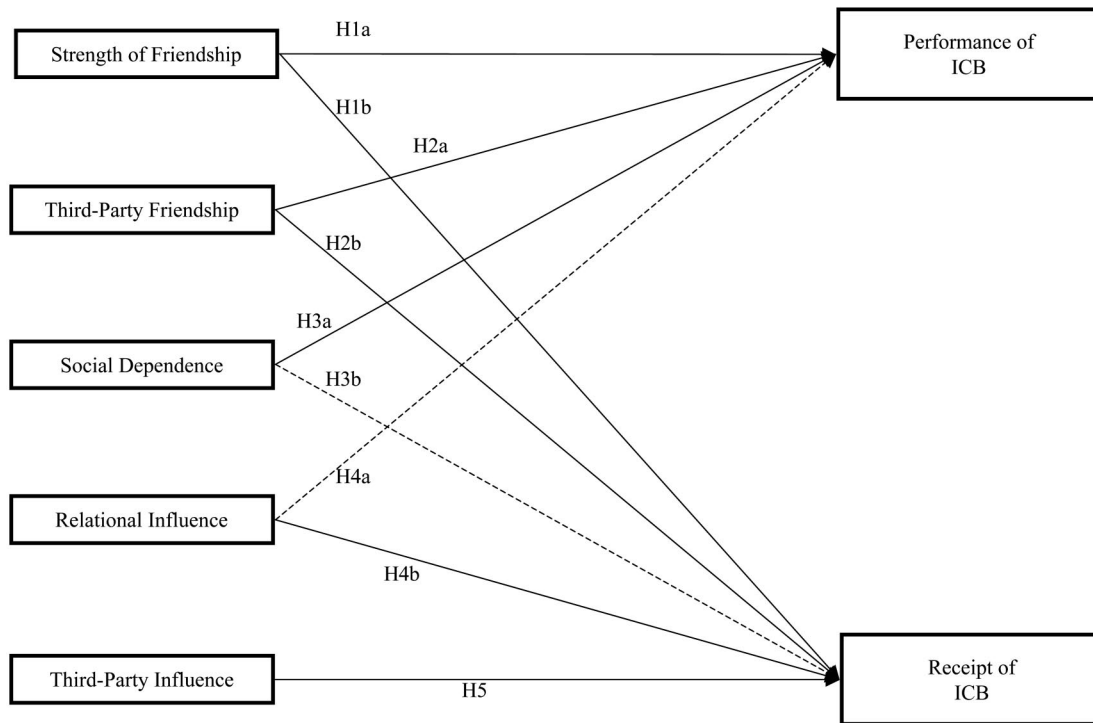


Figure 1. Solid lines represent positive relationships, and dashed lines represent negative relationships.

people who are not themselves friends but are both friends with a common third party would be expected to help each other. This exchange could manifest itself for a number of reasons. First, the ICB performer could be performing the behavior with the expectation of some reciprocation eventually flowing back to him or her through the string of strong-tie friendships. Second, using balance theory (Heider, 1958) as a lens, two people tied to the third party should hold similar attitudes and share common values such as trust and reciprocity. This congruence could lead to a belief that helping a person to whom an individual is indirectly tied should result in future reciprocation of helping among all three parties. Finally, the helper might perform an ICB because he or she believes that helping the third-party friend might benefit the shared friend. Therefore, two individuals not connected by a direct friendship, but connected by a strong friendship tie to a common third party, should both perform and receive ICB.

Hypothesis 2A: Third-party friendships will be positively related to performance of ICB.

Hypothesis 2B: Third-party friendships will be positively related to receipt of ICB.

Social Exchange, Impression Management, and Social Dependence

Asymmetric relationships are dyads demonstrating unbalanced reciprocation between the two parties; one party is dependent on the other. Two types of asymmetric relationships are possible: social and influence. First, the relationship may be socially asymmetric at the dyadic level. Socially asymmetric relationships are characterized by

the dependent individual liking the other without receiving reciprocation (Carley & Krackhardt, 1991; Brass, Butterfield, & Skaggs, 1998). From a social exchange perspective, an individual performing an ICB directed at a person that he or she likes but who does not reciprocate the friendship could be performing the ICB because of a general fondness of the other and/or an attempt to develop a reciprocal friendship. From an impression management perspective, the dependent individual may attempt impression management through ingratiation in order to change the image the other, independent individual has of him or her (Baumeister, Wotman, & Stillwell, 1993). *Impression management* is the desire to be viewed favorably by others (Rosenfeld, Giacalone, & Riordan, 1995; Bolino, 1999). *Ingratiation* is defined as favor-doing in an attempt to be seen as likable (Jones & Pittman, 1980). These impression management motives differ from social exchange because they are not favors done because of liking or the expectation of future reciprocation. They are done with the hope of changing the other's opinion. For example, in a meta-analysis, Gordon (1996) found a relationship between ingratiation behavior and judgments of interpersonal liking by the target person. Therefore, it is expected that, in asymmetric social relationships, the dependent individual will perform ICB directed at the independent other. It is also unlikely, however, that the dependent individual will receive ICB from the person who is the target of his or her ICB because that person has no need to impress the dependent other.

Hypothesis 3A: Social dependence in asymmetric social relationships will be positively related to performance of ICB.

Hypothesis 3B: Social dependence in asymmetric social relationships will be negatively related to receipt of ICB.

Impression Management and Relational Influence

The second type of asymmetric relationship is based on asymmetry of influence. The status of an individual in an organization reflects the relative influence one person has over another. This power gives the higher status individual the ability to influence, directly or indirectly, outcomes of the lower status individual. Outcomes of power and influence include availability of resources necessary for success such as expert information, social capital, access to leaders, promotions, raises, and association with the powerful other (Tedeschi, 1981).

Relative to influence asymmetry, impression management would suggest that ICB is performed in order to facilitate the development of a reputation of being tied to a high-status or influential person. Tedeschi (1981) refers to attempts to be known by the company that we keep through reputational ties to important individuals as basking in the reflected glory (Cialdini et al., 1976). In a network study, Kilduff and Krackhardt (1994) found evidence that basking was beneficial in managing one's reputation for good performance. According to Brown (1985), individuals with asymmetric organizational influence are not as able to provide equivalent resources to each other such as expert information, capital, or access to individuals, as are those employees who have similar levels of organizational influence. Because social exchange relationships are based on equivalence between exchange partners, an exchange relationship between the two employees of unequal influence is not likely. The higher influence actor clearly has little to gain from providing services to the low-influence individual. Lower influence individuals have a great deal to gain from ingratiating and/or being tied with those of higher influence. For example, Gordon (1996) found that impression management behaviors directed at a supervisor were associated with enhanced performance evaluations of the performer. Wayne and Green (1993) also found support for a relationship between dependency and impression management. In that study, high levels of leader member exchange were associated with impression management motives. Therefore, those who are relatively influential in an asymmetric influence dyad should be targets of ICB while performing little, if any, ICB for the less influential dyad member. Those of higher influence have less to gain from those of lower influence.

Hypothesis 4A: Relational influence in asymmetric influence relationships will be negatively related to performance of ICB.

Hypothesis 4B: Relational influence in asymmetric influence relationships will be positively related to receipt of ICB.

Impression Management and Third-Party Influence

Impression management also may predict the performance of ICB if a powerful third party might observe such behavior. For example, on the basis of impression management theory, Bolino (1999) suggested that an audience would enhance the frequency of OCB. Additionally, the presence of an influential third party may have a greater effect on the image of the individual than if the ICB is observed by an audience of similar or lower status individuals. Directing ICB toward those employees tied directly as a friend to influential employees could increase the value of the image en-

hancement received from performing the ICB. First, the influential other could witness the behavior first hand. Second, by performing ICB for the friend of an influential person, the individual could alter the image of himself or herself held by the influential other by creating a positive image in the eyes of the shared, third-party friend. Support for this idea is found in balance theory (Heider, 1958), which suggests that individuals seek congruency of attitudes with those to whom they are socially tied. Therefore, if the friend of an influential individual holds a positive image of the ICB performer, it could affect the ICB performer's image in the eyes of the influential individual.

A number of researchers have found support for such third-party effects on attitudes (e.g., Kandel, 1978; Krackhardt & Kilduff, 1999; Smith, 1989; Labianca, Brass, & Gray, 1998). Labianca and colleagues (1998) found support for the effects of third parties on perceptions of intergroup conflict that mirrored the findings of Gilovich (1987). Gilovich found that gossip between two people about a third party actually had stronger effects on social judgments than did first-hand information because the information from the third party was simplified and decontextualized. Along with creating positive image effects, the performance of ICB also could block image-damaging negative gossip by the ICB recipient to others such as influential third parties. Therefore, on the basis of impression management motives, individuals who are tied to influential members of the organization are likely to be the beneficiaries of ICB.

Hypothesis 5: Third-party influence (friendship with an influential other) will be positively related to receipt of ICB.

Method

Sample

The setting for this study was a small manufacturing firm in a midsized town in the Midwestern United States. The firm manufactures and sells corrugated cardboard and related products. The company employs 175 people, ranging from company president to general laborers. Usable responses were received from 141 individuals, 81% of the sample.

Dependent Variables

Like Wagner and Rush (2000), we used a form of peer rating to measure ICB performance. In contrast to their study, which used two peers to rate a fellow employee's frequency of ICB, this study asked all employees to indicate the people from whom they receive ICB. In order to assess those responsible for performing ICB, as well as those receiving ICB, a network measure was developed that tapped the network of ICB flow among employees. Each employee was presented with a list of 174 fellow employees and asked to indicate on a Likert-type scale ranging from 1 (*helps almost none*) to 5 (*helps a lot*) the extent of help beyond that required by the job each other employee gives him or her. The method used in this study, providing a roster and asking questions about each person on the roster, is a common, acceptable technique for obtaining highly reliable measures (Marsden, 1990; Labianca, Brass, & Gray, 1998). The result of this measure was a valued adjacency matrix (zero to five); each cell in the matrix contains the value (from one to five) indicating the extent to which one person (row) receives ICB from another person (column). It indicates who in the organization receives ICB and from whom they receive ICB.

The columns in the matrix represent the amount of ICB performance by an individual as rated by all others in the organization. Therefore, to create a matrix of ICB performance, the matrix was transposed (rows become

columns and columns become rows). The result was a matrix in which row values represent the amount of ICB that an individual performs for each other person. The two matrices were used as dependent variables to test hypotheses with the Multiple Regression Quadratic Assignment Procedure (MRQAP) described below. Examples and further description of network transformations appear in the Appendix.

Independent Variables

Strength of friendship. Information for the friendship network was collected by using a list of employees similar to that used for the ICB network. The strength of the friendship relationship between two actors was measured by asking employees to indicate whether they did not know the person (scored 0), whether the person is an acquaintance (scored 1), a friend (scored 2), or a close friend (scored 3). This resulted in a valued adjacency matrix, the friendship matrix, in which relationships are indicated by a number ranging from zero to three. The information was preserved in a directional matrix that reflects whether one, both, or neither of the parties indicated a friendship relationship. This information provided a directional indication of liking for each pair that was later used to calculate asymmetric social relationships.

Third-party friendship. In order to identify third-party friendships, the friendship matrix was first dichotomized so that "friend" (value of 2) or "close friend" (value of 3) were recoded as one, and all values of one (acquaintance) or zero (do not know) were coded as zero. This isolated the "friend" and "close friend" relationships from nonrelationships and "acquaintances." The geodesic distance, or minimum number of relationship ties necessary for linking two individuals, was then calculated between each dyad. Those who are directly connected received a value of one, two-step connections (friend of a friend) received a value of two, and three-step connections (friend of a friend of a friend) received three, and so forth. To focus on third-party friendships (friend of a friend), all relational distances other than two were coded as zero, and values of distances of two were coded as one. This produced a dichotomous matrix in which values of one represented third-party friendships.

Social dependence. Asymmetric relationships are those in which one actor indicates a relationship that is not reciprocated by the other actor. The asymmetric social relationship is indicated in the friendship matrix by different numbers between two individuals on opposite sides of the diagonal. In order to test hypotheses 3A and 3B, which tested a relationship between asymmetric friendships and ICB, a transposed version of the friendship matrix was subtracted from the original friendship matrix to create a third matrix of scores that represents the asymmetry in strength of friendship between any two parties.

Relational influence. To capture individual influence, all participants rated each other's level of influence in the organization on a scale ranging from 1 (*very little influence*) to 5 (*a great deal of influence*). The columns of this matrix represent an individual's influence score as rated by all others in the organization. To generate a single influence score for each person, the columns were totaled and divided by 141. The resulting score was then used to create a valued influence matrix of repeating columns of influence scores. The repeating columns of the influence score represent the fact that despite the relationship being assessed, individual influence scores as assessed by all others do not change. This method of calculating influence has been used previously and shown to be reliable (Brass & Burkhardt, 1993). Including this variable in the study assessed the degree to which others' aggregated perceptions of an individual's influence within the organization are related to performance or receipt of ICB.

Third-party influence. Hypothesis 5 posited that people who are friends with an influential other would receive ICB, regardless of their own level of influence. In order to identify third-party influence, the average influence of each person's most influential friend was entered for the focal individual. For each person, this resulted in a single value that represented their most influential friend's influence score. The third-party influence

score was used to create a matrix of repeating columns of third-party influence.

Control Variables

Many studies have demonstrated the relationship between OCB and job satisfaction (Wagener & Rush, 2000), affective organizational commitment (Podsakoff et al., 2000), and procedural justice (Niehoff & Moorman, 1993; Tepper & Taylor, 2003). Therefore, this study controlled for these three variables. The use of these controls makes it possible to show the effects of structural network variables beyond the variance accounted for by previously studied attitudinal variables.

For each of the attitudinal variables, a matrix was created that contained repeating columns of the individual's score on the measure for use in the MRQAP. Repetition of the columns indicates that a person's attitude remains the same regardless of the person for whom he or she performs ICB. This provided the ability to test, and control for, the possibility that ICB was performed because of an attitude toward the organization rather than a relationship with the recipient. An example of these matrices appears in the Appendix (Matrix G).

Job satisfaction. Job satisfaction was measured by using a three-item scale from the Minnesota Satisfaction Questionnaire (MSQ) that taps individual affective and cognitive liking of his or her job (Price & Mueller, 1986). The three items in the scale are: "All in all I am satisfied with my job," "In general, I don't like my job," and, "In general, I like working here." Responses were given on a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

Affective commitment. Affective organizational commitment was measured by using a six-item scale developed by Meyer and Allen (1997). A sample item is "I really feel as if this organization's problems are my own." Responses were measured on a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

Procedural justice. Procedural justice was measured by using Niehoff and Moorman's (1993) 10-item scale. Responses were on a 5-point Likert-type scale ranging from 1 (*strongly agree*) to 5 (*strongly disagree*). A sample item is "My supervisors make decisions in an unbiased manner."

Demographic similarity control variables. In addition to the above control variables, several demographic variables were measured, including respondent gender, age, race, education level, job tenure, hierarchical level, and hours worked per week. A square matrix of difference scores was created by using the UCINET VI (Borgatti, Everett, & Freeman, 1999) program for each demographic control variable. Scores in the cells of the matrix indicate the difference between an individual and each other person in the network on the same demographic variable. Through the use of these demographic similarity variables, the MRQAP assesses the degree to which ICB performance and receipt is a function of the demographic similarity between two individuals. The race difference variable was recoded so that all nonzeros were coded to one because the variable was categorical. Hierarchical level of each employee was calculated by assigning the company president the value one, and values of two, three, and so forth were assigned to the cascading levels of the organizational chart. This value was held constant in a repeating columns matrix to control for formal influence.

Analysis

Because the observations used to create social network variables are not independent, traditional regression techniques are not sufficient for analysis of the data in this study. Social network calculations were performed by using the UCINET VI procedure that regresses individual cells of a dependent network matrix on the corresponding cells in multiple network matrices (independent variables), referred to as *MRQAP*. This procedure is robust against autocorrelation in the rows and columns of relational data (Kilduff & Krackhardt, 1994). For example, Person A's indication of

friendship with Person B would be located in row 1, column 2 in the friendship matrix, and Person A's indication of receipt of ICB from Person B would be located in the corresponding cell (row 1, column 12) in the ICB receipt matrix. The MRQAP correlates the cell representing the relationship between Persons A and B (row 1, column 2) in the friendship matrix with the corresponding A/B cell (row 1, column 2) in the ICB receipt matrix. Correlating all cells between all individuals in the networks results in a Pearson correlation between the two network variables.

The second step of the MRQAP generates random permutations of the independent matrix and then computes the regression and saves the resulting r^2 values and all coefficients. Step two is repeated 2,000 times to calculate standard errors for the statistics of interest. For each variable, the procedure computes the proportion of coefficients generated from the random permutations that are as extreme as the coefficient generated in Step 1. Low proportions of random permutations, such as less than .05, suggest that there is a low likelihood that the relationship between the matrices of interest occurred by chance, and thus a significant relationship is suggested (Labianca et al., 1998; Borgatti et al., 1999). Regression involving multiple independent matrices simply controls for the correlation between the dependent and other independent matrices in the equation.

Results

Univariate and Bivariate Statistics

Table 1 includes means, standard deviations, and intercorrelations between all the variables. A few of the correlations merit comment at this point. The demographic control variables and attitude variables that one might expect to cause two people to perform ICB for each other did not demonstrate significance in the bivariate correlations. These correlations are explored further in the Discussion section. The correlation between strength of friendship and third-party friendship was $-.81$ for this sample. This correlation is because almost all employees were connected to each other when including both direct and third-party friendships. Therefore, the result is a third-party friendship matrix that is nearly the opposite of the direct friendship matrix and the strong negative correlation. There is also a significant negative correlation between relational influence and social dependence which is likely because a less influential person is more likely to indicate a more influential person as a friend than for the opposite to occur. In addition, the correlation between relational influence and ICB receipt of $r = .27$ is less than the correlation between third-party influence and ICB receipt of $r = .50$. This suggests that the employee's relational influence score is somehow implicit within the third-party influence score resulting in a higher correlation of ICB receipt with third-party influence than with dyadic relational influence.

Regression Results

We tested our hypotheses by using MRQAP. We entered the control variable first, followed by the hypothesized variables. Two models, one for ICB performance and one for ICB receipt were tested. Results of the regression analyses appear in Table 2.

The control variables did not explain a significant portion of the variance in either model as a whole, despite one variable (hierarchical level) demonstrating significance in the regression equation for both ICB Performance ($B = -.09, p < .01$) and ICB Receipt ($B = .15, p < .05$). The complete models predicting the performance of ICB and receipt of ICB explained significantly more variance than did the control variables, $F(5, 5309) = 512.40, p <$

$.01$, for ICB performance, and $F(5, 5513) = 750.85, p < .01$. Results for individual hypotheses within the overall models are discussed below.

Strength of friendship. Hypothesis 1A proposed that the strength of friendship between two people is positively associated with the performance of ICB in the relationship. The results indicated a significant relationship ($B = .45, p < .001$) between strength of friendship and performance of ICB. Therefore, hypothesis 1A was supported, suggesting that individuals perform ICB for their strong-tie friends. Hypothesis 1B tested the relationship between strength of friendship and the receipt of ICB. Results indicated a significant relationship ($B = .41, p < .001$) between strength of friendship and receipt of ICB. Therefore, Hypothesis 1B was supported, suggesting that individuals receive ICB from their friends.

Third-party friendships. Hypotheses 2A and 2B tested the relationship between third-party friendships, being the friend of a friend, and ICB. Neither hypothesis was supported.

Asymmetric social relationships. Hypotheses 3A and 3B tested relationships between asymmetric friendship ties and receipt and performance of ICB. Hypothesis 3A, which predicted a positive relationship between positions of social dependence and performance of ICB, was not supported. The relationship between social dependence and performance of ICB was significant but in the opposite direction. Social dependence was negatively related to the performance of ICB. Hypothesis 3B, which predicted a negative relationship between positions of social dependence and receipt of ICB from the object of the tie was supported ($B = -.11, p < .01$).

Asymmetric influence relationships. Hypotheses 4A and 4B related ICB performance and receipt to an individual's influence in a dyadic asymmetric influence relationship. The predicted negative relationship between relational influence and ICB performance (Hypothesis 4A) was supported ($B = -.32, p < .001$). Thus, Hypothesis 4A was supported. Those with relative influence in the dyad are not likely to perform ICB for those with less influence. The predicted positive relationship between receipt of ICB and one's relative influence in a dyad (Hypothesis 4B) was supported ($B = .11, p < .05$). This finding indicates that those with more influence are likely to receive ICB from less influential others.

Third-party influence. Hypothesis 5 suggested that people who are friends with an influential person benefit from the receipt of ICB. Hypothesis 5 was supported ($B = .28, p < .01$). This suggests that, regardless of one's informal influence or hierarchical level, those who are friends of influential others receive more ICB than those who have less influential friends.

Discussion

Overall, the results of this study suggest that relationships within organizations are important factors in the performance and receipt of ICB. Results supported hypotheses based on both social exchange theory and impression management theory. This suggests that both motives drive the performance and receipt of ICB. These findings further the study of OCB, and in particular ICB, by shifting the focus from individual attitudinal variables to relationship variables. Indeed, in our study the traditional attitudinal variables (job satisfaction, commitment, and procedural justice) that typically relate to OCB did not relate to the performance or

Table 1
Descriptive Statistics, Reliability Estimates, and Correlations

| Variable | M | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|----------------------------|-------|-------|--------|--------|--------|-------|-------|-------|-------|--------|-------|-------|-------|--------|--------|--------|--------|-------|----|
| 1. ICB performance | 2.21 | 1.37 | — | | | | | | | | | | | | | | | | |
| 2. ICB receipt | 2.21 | 1.37 | .15** | — | | | | | | | | | | | | | | | |
| 3. Age | 39.40 | 11.04 | -.03 | — | | | | | | | | | | | | | | | |
| 4. Gender | 0.86 | 0.35 | .03 | .03 | — | | | | | | | | | | | | | | |
| 5. Race | 4.83 | 0.83 | -.01 | -.01 | .08 | — | | | | | | | | | | | | | |
| 6. Education | 2.73 | 1.00 | .01 | .01 | .20* | .03 | — | | | | | | | | | | | | |
| 7. Tenure | 11.42 | 9.26 | .01 | .01 | .58* | .07 | -.18* | .05 | — | | | | | | | | | | |
| 8. Hours/work | 45.32 | 5.55 | .00 | .00 | .11 | .01 | .13 | .09 | .32 | — | | | | | | | | | |
| 9. Affective commitment | 4.03 | 0.72 | .06** | .16** | .31** | -.04 | .19* | .09 | .32** | .20* | (.89) | | | | | | | | |
| 10. Job satisfaction | 4.30 | 0.70 | -.02 | .17 | .14 | -.18* | .07 | -.05 | .01 | .14 | .35** | (.91) | | | | | | | |
| 11. Procedural justice | 1.37 | 0.66 | .05* | .12** | -.17 | -.03 | -.09 | -.20* | -.09 | .01 | -.10 | -.05 | (.87) | | | | | | |
| 12. Hierarchical level | 2.60 | 1.05 | -.08** | .12** | -.01 | .01 | .14** | .23** | .10** | .13** | .29** | .22** | .14* | — | | | | | |
| 13. Strength of friendship | 1.49 | 0.65 | .18** | .46** | -.03 | -.05 | -.06 | -.04 | -.10 | -.02 | .11** | .12 | .02** | .02** | — | | | | |
| 14. Third-party friendship | 0.21 | 0.47 | -.02** | -.41** | -.06** | .02 | -.02 | .05** | -.01 | -.01** | -.08 | .02** | .22** | .13** | -.81** | — | | | |
| 15. Social dependence | 0.00 | 0.89 | .12** | -.12** | .00 | -.00 | .00 | -.00 | .00 | .00 | .00 | .00 | .23** | .04 | .35** | -.21** | — | | |
| 16. Relational influence | 6.00 | 1.72 | -.27** | .27** | .00 | -.00 | .00 | .00 | .00 | .00 | .00 | .00 | .18** | -.12** | .09** | .24** | -.69** | — | |
| 17. Third-party influence | 6.40 | 2.60 | .02 | .50** | .01 | .03 | -.07 | .07** | .07 | .05 | .14** | .16** | .14** | .18** | .29** | -.26 | .09** | .56** | — |

Note. Where applicable, reliability estimates (in parentheses) appear on the diagonal. Ms vary on the basis of variable type (network matrix, attribute variable) resulting in differing levels of significant correlations. ICB = interpersonal citizenship behavior.

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

Table 2
Results of Multiple Regression Quadratic Assignment Procedure

| Variable | ICB performance | | ICB receipt | |
|------------------------|-----------------|---------|-------------|---------|
| | Step 1 | Step 2 | Step 1 | Step 2 |
| Age similarity | -.03 | -.01 | -.04 | -.02 |
| Gender similarity | .04 | .02 | -.01 | .03 |
| Race similarity | .02 | .01 | -.03 | -.03 |
| Education similarity | -.01 | .02 | .01 | -.01 |
| Hours/week similarity | -.01 | .03 | .02 | .01 |
| Tenure similarity | .01 | .05 | .02 | .02 |
| Hierarchical level | -.09** | .08 | .15* | .04 |
| Affective commitment | .02 | -.02 | .11 | .01 |
| Job satisfaction | -.05 | .01 | .13 | .07 |
| Procedural justice | .02 | .03 | .01 | .04 |
| Strength of friendship | | .45*** | | .41*** |
| Third-party friendship | | -.01 | | .00 |
| Social dependence | | -.39*** | | -.11*** |
| Relational influence | | -.32*** | | .11*** |
| Third-party influence | | na | | .28*** |
| R ² | .011 | .279*** | .061 | .365*** |

Note. Values are standardized beta weights. ICB = interpersonal citizenship behavior.

* $p < .05$. ** $p < .01$. *** $p < .001$.

receipt of ICB. This supports the distinction between organizationally oriented citizenship behavior and ICB. Individuals may perform ICB for friends and influential others regardless of their level of job satisfaction, commitment, or perceptions of procedural justice.

The control variables measuring demographic similarity also did not significantly relate to the performance or receipt of ICB. This finding seems to contradict research on similarity/attraction and homophily—the preference for interacting with similar others (e.g., Mehra et al., 1998). Because the average tenure of our respondents was 11.42 years, obvious similarity indicators such as race, gender, age, and so forth may prove to be less important than similarity in personality or values (similarity indicators that require long-term interaction). That is, similarity on easily observable characteristics such as race, gender, and age may foster interaction in the short term or in acquaintanceship situations, but long-term relationships and ICB may be based on similarity of less easily observable indicators. Another possibility is that proximity overrides attribute similarity when it comes to ICB and organizations. We more frequently have the opportunity to perform ICB for those people who are proximal to us, regardless of whether they are similar to us in race, gender, age, and so forth.

Friendship was a key variable in the models predicting ICB performance and ICB receipt. Individuals provide ICB for those whom they like. This complements prior social network research on the value of strong (friendship) and weak (acquaintance) ties. For example, Granovetter's (1982) weak tie theory suggests the value of search and transfer of simple information through weak ties (see also Hansen, 1999). Although weak ties may be helpful in search and transfer of easily codifiable information such as job openings, our results suggest that strong ties (friendship) are nec-

essary for the performance of ICB. Strong ties have greater motivation to be of assistance.

However, contrary to Hypotheses 2A and 2B, third-party friendship was negatively and significantly related to ICB performance and receipt. Also, in Table 1, we noted that strength of friendship was negatively correlated with third-party friendship. This may be because friends of friends are likely to be friends themselves and are thus included in the direct friendship measure. That is, if A and B are friends, and A and C are friends, B and C are also likely to be friends. This is based on balance theory and extensively discussed in Granovetter's (1973) classic article on the strength of weak ties. Thus, if B and C are indeed friends, the ICB relationship between B and C is included in our analysis of direct friendship and omitted from our third-party analysis. Of course, it is possible that B and C are not direct friends. This would likely occur if, for some reason, B does not know C, or if B knows C but does not like C. In both cases, we would expect negative relationships with ICB. Our third-party friendship matrix may be capturing the exceptional relationships in which B and C are not already linked by friendship. If B does not know C or dislikes C, this would explain the negative relationship between ICB and third-party friendships.

Asymmetric social (friendship) relationships had an overall negative impact on the performance and receipt of ICB. Social dependence related negatively to receipt of ICB, as hypothesized. However, an unexpected significant negative relationship emerged between social dependence and performance of ICB (opposite of Hypothesis 2B). This suggests that some level of social balance is necessary between two individuals for performance of ICB to occur. This may also indicate that the socially dependent person may be aware of this lack of reciprocity. In extended terms, this is the case of "unreciprocated love." The dependent party may be hurt or angry that the friendship is not reciprocated and thus would be less likely to perform ICB toward the "offending" party.

Asymmetric influence was also related to ICB performance and receipt. The more influential individual was unlikely to provide ICB to the less influential individual. The more influential the person was, however, the more likely he or she was to report receiving ICB from the less influential member of the dyad. These findings would suggest that higher status individuals have little to gain in terms of image management, resource allocations, or reciprocation from performing ICB for the lower status individual. On the other hand, the increased receipt of ICB by higher status individuals from lower status individuals suggests that the lower status individual could be trying to manage the impressions made on the higher status individual. Our study also found results for third-party influence. Receipt of ICB was positively related to having an influential friend. These results support an impression management perspective on ICB. They also complement previous social network research showing reputational (Kilduff & Krackhardt, 1994) and promotional benefits (Brass, 1984) from connections to influential others.

Our results showed that the correlation between ICB receipt and third-party influence was stronger than the correlation between ICB receipt and relational influence. This may be because people are more likely to interact with people of similar influence (Brass & Burkhardt, 1992) and thus would have more opportunity to

perform ICB for friends of influential people (who may likely be less influential than their influential friend). This would assume that access to friends of influential people is easier than access to the actual influential people.

Our research adds to the social network research on influence in organizations. Prior research has shown that central actors are perceived as more influential (e.g., Brass, 1984) and that perceptions of friendship with influential actors can improve one's reputation for performance (Kilduff & Krackhardt, 1994). Our results add to the benefits of friendship with influential others and suggest a process by which central, influential employees may increase their influence through the receipt of ICB.

Limitations of the Study

Caution must be exercised in generalizing from this study. This sample is representative of manufacturing firms that employ predominantly Caucasian men with high school educations. The task environment of this sample could limit the opportunities to help one another because of the automated nature of the work. Thus, our setting may provide a conservative test of ICB. Future research should extend this line of study to other task environments and more heterogeneous samples to expand the application of the findings.

The measures of ICB receipt and friendship were collected from the same individuals, raising the possibility of common source bias (Podsakoff & Organ, 1986). However, all hypotheses involving the performance of citizenship behavior were tested by using a transposed ICB network, precluding the possibility of common source bias. That is, respondents reported receipt of ICB, and this information (transposed and aggregated) was the basis for the measure of performance of ICB. Also, the influence measures came from separate sources. A strength of this study was that it did not rely on supervisor ratings of ICB. Given the results based on impression management theory, it is likely that impression management by subordinates affects supervisor ratings of OCB. Future research should include both peer and managerial evaluations of ICB and/or OCB in order to examine the relationship between the two methods of measurement.

Our study involved cross-sectional data, so no definitive statements can be made regarding relationships as precursors to ICB. We suggest that these relationships are reciprocal; thus, even a longitudinal study would not provide definitive answers to the question of causality. Structuration theory supports the assumption that relationships are both the precursors and the results of individual behavior (Giddens, 1976; Pfeffer, 1981; Barley, 1986, 1990). This theoretical foundation has been used in previous network studies, both longitudinal (Burkhardt & Brass, 1990) and cross-sectional (Brass & Burkhardt, 1993). It is likely that relationships affect ICB and the performance and receipt of ICB affects relationships. Although an argument can be made on the basis of social exchange and impression management theory that causality in this study flows from relationship to behavior, the reverse is also possible. It is likely that at least some ICB is performed and directed at specific individuals in order to develop friendship relationships and/or gain influence (Bolino, Turnley, & Bloodgood, 2002). It is also possible that ICB performance occurs without the intent of developing relationships but that the continued reciprocation of ICB leads to the development of relationships.

We did not mean to preclude these possibilities in generating our hypotheses. Indeed, we believe that relationships affect ICB and ICB affect relationships. Therefore, no definitive conclusions can be reached about the causal relationship between social networks and ICB.

It is also possible that the results of this study are due to spurious variables not included in our research. Although we controlled for several alternatives, other factors such as trust, agreeableness, or perceived need of ICB could be affecting both relationships and ICB. Such factors might fruitfully be pursued in future research.

Future Research Directions

This study begins to provide answers to several important questions regarding social network variables and ICB but also suggests additional variables and processes that need to be accounted for regarding ICB. For example, results of this study complement prior research by Rioux and Penner (2001) that tested individual motive to perform ICB. One limitation of our study is the reliance on social exchange and impression management theories without measuring the actual motives involved in the performance of ICB. Future research might include further examination of individual motives to perform ICB (Rioux & Penner, 2001). For example, individuals with a prosocial or organizational concern motive may perform ICB regardless of their friendship or influence relationships. Impression management motives would likely influence ICB performance only when tangible gains are expected from the behavior. Although reports of motives may be subject to social desirability biases, it is important to understand the underlying mechanisms for performance of ICB.

Perhaps more important than the motive of the performer of the ICB is the attributed motive as perceived by the ICB recipient. Research has established the important role of peer attributions of coworkers' low performance as an antecedent to ICB behaviors (Jackson & LePine, 2003). The current research could be extended by including recipient attributions of ICB performance. Recipient attributions of ICB motive likely affect recipient attitudes about the employee and the organization (Rioux & Penner, 2001), and the recipient's motivation to reciprocate the ICB. Recipient perceptions of a prosocial motive or a friendship motive likely elicit positive shifts in interpersonal attitudes and a willingness to reciprocate. When the performance of ICB is attributed to organizational factors such as organizational culture, the outcome may be improved organizational attitudes. Attributing ICB to impression management motives may cause negative shifts in attitudes and possibly resentment toward the ICB performer or toward the organization if the performer is viewed as a representative of the organization. It is unlikely that the recipient will reciprocate the ICB. Attributions may also affect performance evaluations. Allen and Rush (1998) found that perceived motives mediated the relationship between subordinate performance of overall OCB and performance evaluations and liking by managers. Perceived prosocial or organizational concern motives likely lead to higher performance evaluations, whereas perceived impression management motives may result in lower performance evaluations.

In addition to ICB, other elements of organizational citizenship behavior may also be related to social network variables. Some prior research suggests that OCB elements are correlated (Lepine, Erez, & Johnson, 2002), and the quality of interpersonal relationships likely influences whether people engage in behaviors associated with OCB such as sportsmanship, conscientiousness, and civic virtue. For example, if an individual likes the people he or she works with, chances are he or she will not complain about them, take more breaks than deserved, or loaf in meetings. Future research could investigate effects on other forms of OCB where the target may be less clear or where the benefit to the recipient may be less direct (e.g., being extra conscientious may indirectly help peers because of certain interdependencies).

Though studying variables with positive effects on OCB seems to be the focus of researchers, recent research suggests that harmful organizational phenomena also impact performance of OCB (Zellars, Tepper, & Duffy, 2002). Negative network interactions likely influence ICB as well. Therefore, it is important to examine the effects of negative network ties on performance and receipt of ICB.

Managerial Implications

The value of OCB to group and firm performance has been demonstrated in previous research (e.g., Podsakoff et al., 2000). Any new information regarding ICB is, therefore, valuable to management practitioners. This study offers managers more insights about how to facilitate ICB. For instance, managers may want to promote practices that facilitate friendships among employees in order to increase ICB. This might involve the sponsoring of social activities such as company outings or intramural sports events. Rotating managers and employees through introductory job assignments (job sampling) may also provide opportunities for building relationships that may facilitate ICB across departments. This could lead to increased ICB, enhancement of individual performance, and, ultimately, group and firm performance.

Individual performance is affected by others with whom one interacts, and characteristics of the relationships between others and the individual. Likewise, the performance of teams is not just the sum of individual ability in the group but also the level of facilitation among members of the group. Building effective networks within those teams as well as organizations will enhance the performance of those teams and organizations (Reagans, Zuckerman, & McEvily, 2004).

Organizations may consider the need to find ways to get ICB to and from the right employees. Those with informal influence are less likely to perform ICB for those with less influence. This is the opposite of what managers would desire from powerful employees in an organization. Employees with little power are likely in need of ICB receipt, but influential employees do not appear to be willing to help them as suggested by the results of this study. Influential employees likely provide role models and set the environmental tone through the behaviors that they do, or do not, perform. Organizations may wish to consider incentives to encourage influential employees to offer ICB to less influential others. Training in the awareness of the importance of modeling behavior and organizational culture may be useful.

Conclusion

This study's goal was to forge a better understanding of relationships and interpersonal citizenship behavior performance and receipt. We have followed the advice to "dig deeper" into the correlates of various elements of OCB (Podsakoff et al., 2000; Settoon & Mossholder, 2002). Prior to this study, a great deal of knowledge existed about individual variables as correlates of OCB. The current results add to the body of knowledge by providing a relational perspective to the study of ICB. Not only is social exchange between employee and organization important to OCB, but social exchange between employees is important to ICB. Indeed, we found that correlates of ICB were not necessarily the same as the previously found correlates of OCB. Our study introduced a new focus on recipients of ICB, and we found differences between the performance and receipt of ICB. The results of this study suggest that characteristics of social networks, including friendships and relational influence are related to ICB performance, and that friendship, and social, relational, and third-party influence are related to ICB receipt. Future research may build upon these results by investigating the correlates and relationships between ICB and OCB performance and receipt, and the interface between them.

References

- Allen, T. D., & Rush, M. C. (1998). The effects of organizational citizenship behavior on performance judgments: A field study and a laboratory experiment. *Journal of Applied Psychology, 83*, 247–260.
- Anderson, S. E., & Williams, L. J. (1996). Interpersonal, job, and individual factors related to helping processes at work. *Journal of Applied Psychology, 81*, 282–296.
- Barley, S. R. (1986). Technology as an occasion for structuring: Evidence from observations of CT scanners and the social order of radiology departments. *Administrative Science Quarterly, 31*, 78–108.
- Barley, S. R. (1990). The alignment of technology and structure through roles and networks. *Administrative Science Quarterly, 35*, 61–103.
- Bateman, T. S., & Organ, D. W. (1983). Job satisfaction and the good soldier: The relationship between affect and employee "citizenship." *Academy of Management Journal, 26*, 587–595.
- Baumeister, R. F., Votman, S. R., & Stillwell, A. M. (1993). Unrequited love: On heartbreak, anger, guilt, scriptlessness, and humiliation. *Journal of Personality and Social Psychology, 64*, 377–394.
- Blau, P. (1964). *Exchange and power in social life*. New York: Wiley.
- Blau, P. (1986). *Exchange and power in social life*. New Brunswick, NJ: Transaction Publishers.
- Bolino, M. C. (1999). Citizenship and impression management: Good soldiers or good actors? *Academy of Management Review, 24*, 82–98.
- Bolino, M. C., Turnley, W. H., & Bloodgood, J. M. (2002). Citizenship behavior and the creation of social capital in organizations. *Academy of Management Review, 27*, 505–522.
- Borgatti, S. P., Everett, M. G., & Freeman, L. C. (1999). *UCINET VI for Windows: Software for Social Network Analysis*. Natick, MA: Analytic Technologies.
- Borman, W. C., & Motowidlo, S. J. (1997). Task performance and contextual performance: The meaning for personnel selection research. *Human Performance, 10*, 99–109.
- Brass, D. J. (1984). Being in the right place: A structural analysis of individual influence in an organization. *Administrative Science Quarterly, 29*, 518–539.
- Brass, D. J., & Burkhardt, M. E. (1992). Centrality and power in organizations. In N. Nohria & R. Eccles (Eds.), *Networks and organizations*:

- Structure, form, and action* (pp. 191–213). Boston: Harvard Business School Press.
- Brass, D. J., & Burkhardt, M. E. (1993). Potential power and power use: An investigation of structure and behavior. *Academy of Management Journal*, 36, 441–470.
- Brass, D. J., Butterfield, K. D., & Skaggs, B. C. (1998). Relationships and unethical behavior: A social network perspective. *Academy of Management Review*, 23, 14–31.
- Brown, R. (1985). *Social psychology* (2nd ed.). New York: Free Press.
- Burkhardt, M. E., & Brass, D. J. (1990). Changing patterns or patterns of change: The effects of a change in technology on social network structure and power. *Administrative Science Quarterly*, 35, 104–124.
- Burt, R. S. (1992). *Structural holes: The social structure of competition*. Cambridge, MA: Harvard University Press.
- Carley, K., & Krackhardt, D. (1991). *Emergent asymmetric behavior: A socio-cognitive examination of asymmetric relationships*. Working paper, Carnegie-Mellon University, Pittsburgh.
- Cialdini, R. B., Borden, R. J., Thorne, A., Walker, R. M. R., Freeman, S., & Sloan, L. R. (1976). Basking in the reflected glory: Three (football) field studies. *Journal of Personality and Social Psychology*, 34, 366–375.
- Giddens, A. (1976). *New rules of sociological method*. London: Hutchinson.
- Gilovich, T. (1987). Secondhand information and social judgment. *Journal of Experimental Social Psychology*, 23, 59–74.
- Gordon, R. A. (1996). Impact of ingratiation on judgments and evaluations: A meta-analytic investigation. *Journal of Personality and Social Psychology*, 71, 54–70.
- Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, 78, 1360–1380.
- Granovetter, M. S. (1982). The strength of weak ties: A network theory revisited. In P. V. Marsden & N. Lin (Eds.), *Social structure and network analysis* (pp. 105–130). Beverly Hills, CA: Sage.
- Hansen, M. T. (1999). The search-transfer problem: The role of weak ties in sharing knowledge across organization subunits. *Administrative Science Quarterly*, 44, 82–84.
- Heider, F. (1958). *The psychology of interpersonal relations*. New York: Wiley.
- Jackson, C. L., & LePine, J. A. (2003). Peer responses to a team's weakest link: A test and extension of Lepine and VanDyne's model. *Journal of Applied Psychology*, 88, 459–475.
- Jones, E. E., & Pittman, T. S. (1980). Toward a general theory of strategic self-presentation. In J. Suls (Ed.), *Psychological perspectives on the self* (pp. 231–262). Hillsdale, NJ: Erlbaum.
- Kandel, D. B. (1978). Homophily, selection and socialization in adolescent friendships. *American Journal of Sociology*, 84, 427–436.
- Katz, D. (1964). Motivational basis of organizational behavior. *Behavioral Science*, 9, 131–146.
- Kilduff, M., & Krackhardt, D. (1994). Bringing the individual back in: A structural analysis of the internal market for reputation in organizations. *Academy of Management Journal*, 37, 87–108.
- Korsgaard, M. A., Meglino, B., & Lester, S. W. (1997). Beyond helping: Do other-oriented values have broader implications in organizations? *Journal of Applied Psychology*, 82, 160–177.
- Koys, D. J. (2001). The effects of employee satisfaction, organizational citizenship behavior, and turnover on organizational effectiveness: A unit-level, longitudinal study. *Personnel Psychology*, 54, 101–114.
- Krackhardt, D., & Kilduff, M. (1999). Whether close or far: Social distance effects on perceived balance in friendship networks. *Journal of Personality and Social Psychology*, 76, 770–782.
- Labianca, G., Brass, D. J., & Gray, B. (1998). Social networks and perceptions of inter-group conflict: The role of negative relationships and third parties. *Academy of Management Journal*, 41, 55–67.
- Lepine, J. A., Erez, A., & Johnson, D. E. (2002). The nature and dimensionality of organizational citizenship behavior: A critical review and meta-analysis. *Journal of Applied Psychology*, 87, 52–65.
- Lepine, J. A., & Van Dyne, L. V. (2001). Peer responses to poor performers: An attributional model of helping in the context of groups. *Academy of Management Review*, 26, 56–91.
- MacKenzie, S. B., Podsakoff, P. M., & Ahearne, M. (1998). Some possible antecedents and consequences of in-role and extra-role salesperson performance. *Journal of Marketing*, 62, 87–98.
- Marsden, P. V. (1990). Network data and measurement. In W. R. Scott & J. Blake (Eds.), *Annual review of sociology* (16th ed., pp. 435–463). Palo Alto, CA: Annual Reviews.
- Mehra, A., Kilduff, M., & Brass, D. J. (1998). At the margins: A distinctiveness approach to social identity and social networks of underrepresented groups. *Academy of Management Journal*, 41, 441–452.
- Meyer, J. P., & Allen, N. J. (1997). *Commitment in the workplace: Theory, research, and application*. Thousand Oaks, CA: Sage.
- Moorman, R. H. (1993). The influence of cognitive and affective based job satisfaction measures on the relationship between satisfaction and organizational citizenship behavior. *Human Relations*, 46, 759–776.
- Moorman, R. H., Blakely, G. L., & Niehoff, B. P. (1998). Does perceived organizational support mediate the relationship between procedural justice and organizational citizenship behavior? *Academy of Management Journal*, 41, 351–357.
- 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.
- Pfeffer, J. (1981). *Power in organizations*. Marshfield, MA: Pitman.
- Podsakoff, P. M., Ahearne, M., & MacKenzie, S. B. (1997). Organizational citizenship behavior and the quantity and quality of work group performance. *Journal of Applied Psychology*, 82, 262–270.
- Podsakoff, P. M., MacKenzie, S. B., Paine, J. B., & Bachrach, D. G. (2000). Organizational citizenship behaviors: A critical review of the theoretical and empirical literature and suggestions for future research. *Journal of Management*, 26, 513–563.
- Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management*, 12, 531–544.
- Price, J. L., & Mueller, C. W. (1986). *Handbook of organizational measurement*. Marshfield, MA: Pitman.
- Reagans, R., Zuckerman, E., & McEvily, B. (2004). How to make the team: Social networks vs. demography as criteria for designing effective teams. *Administrative Science Quarterly*, 49, 101–133.
- Rioux, S. M., & Penner, L. A. (2001). The causes of organizational citizenship behavior: A motivational analysis. *Journal of Applied Psychology*, 86, 1306–1314.
- Rosenfeld, P. R., Giacalone, R. A., & Riordan, C. A. (1995). *Impression management in organizations: Theory, measurement, and practice*. New York: Routledge.
- Scott, J. (2000). *Social network analysis: A handbook*. London: Sage.
- Settoon, R. P., & Mossholder, K. W. (2002). Relationship quality and relationship context as antecedents of person- and task-focused interpersonal citizenship behavior. *Journal of Applied Psychology*, 87, 255–267.
- Smith, K. K. (1989). The movement of conflict in organizations: The joint dynamics of splitting and triangulation. *Administrative Science Quarterly*, 34, 1–20.
- Tedeschi, J. T. (1981). *Impression management theory and social psychological research*. New York: Academic Press.
- Tepper, B. J., & Taylor, E. C. (2003). Relationships among supervisors' procedural justice perceptions and organizational citizenship behaviors. *Academy of Management Journal*, 46, 97–105.
- Van Dyne, L., Cummings, L. L., & Mclean Parks, J. (1995). Extra-role behaviors: In pursuit of construct and definitional clarity (a bridge over

- troubled waters). In L. L. Cummings & B. M. Staw (Eds.), *Research in organizational behavior* (Vol. 17, pp. 215–285). Greenwich, CT: JAI Press.
- Van Dyne, L., Graham, J. W., & Dienesch, R. M. (1994). Organizational citizenship behavior: Construct redefinition, measurement, and validation. *Academy of Management Journal*, *37*, 765–802.
- Van Dyne, L., & LePine, J. A. (1998). Helping and voice extra-role behaviors: Evidence of construct and predictive validity. *Academy of Management Journal*, *41*, 108–119.
- Van Scotter, J. R., & Motowidlo, S. J. (1996). Interpersonal facilitation and job dedication as separate facets of contextual performance. *Journal of Applied Psychology*, *81*, 525–531.
- Wagner, S. L., & Rush, M. C. (2000). Altruistic organizational citizenship behavior: Context, disposition, and age. *Journal of Social Psychology*, *140*, 379–392.
- Wayne, S. J., & Green, S. A. (1993). The effects of leader-member exchange on employee citizenship and impression management behavior. *Human Relations*, *46*, 1431–1440.
- 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.
- Zellers, K., Tepper, B. J., & Duffy, M. K. (2002). Abusive supervision and subordinates' organizational citizenship behavior. *Journal of Applied Psychology*, *87*, 1068–1076.

Appendix

Demonstration of Network Matrix Creation, Correlation, and Manipulation

Network data are organized in an adjacency matrix in which the respondent's value of the relationship toward the person in the column is indicated by the number in the cell. Matrix A shows the strength of friendship scores. Jeff indicates a value of 1 (acquaintance) with Marta, value of 2 (friend) with Steve, and value of 3 (close friend) with Lisa. Marta indicates a value of 3 (close friend) with Jeff, et cetera. Matrix B is the valued ICB receipt matrix, which for this study shows the frequency that ICB is received by the row individual from the column individual. For example, Jeff indicates that he received a value of 3 (moderate level of receipt of ICB) from Marta. The arrows represent examples of corresponding cells tested for in the MRQAP. Cell 2,1 in the friendship matrix (value = 3), is correlated with the corresponding Cell 2,1 (value = 2) in the ICB receipt matrix.

| A: Strength of Friendship Matrix | | | | |
|----------------------------------|------|-------|-------|------|
| | Jeff | Marta | Steve | Lisa |
| Jeff | | 1 | 2 | 3 |
| Marta | 3 | | 0 | 3 |
| Steve | 2 | 2 | | 3 |
| Lisa | 1 | 3 | 3 | |

1 = acquaintance, 2 = friend, 3 = close friend

| B: ICB Receipt Matrix | | | | |
|-----------------------|------|-------|-------|------|
| | Jeff | Marta | Steve | Lisa |
| Jeff | | 3 | 4 | 5 |
| Marta | 2 | | 0 | 4 |
| Steve | 3 | 3 | | 3 |
| Lisa | 0 | 4 | 4 | |

1 = almost none, 3 = some, 5 = a lot

Person in row is indicating receipt of ICB from person in column. ICB performance receipt score equals average of row

The ICB Receipt Matrix B is transposed in Matrix C to show the performance of ICB by an individual directed at others.

| C: Transposed ICB Receipt Matrix | | | | |
|----------------------------------|------|-------|-------|------|
| | Jeff | Marta | Steve | Lisa |
| Jeff | | 2 | 3 | 0 |
| Marta | 3 | | 3 | 4 |
| Steve | 4 | 0 | | 4 |
| Lisa | 5 | 4 | 3 | |

Person in row is performing ICB for the person in the column. ICB performance equals the row average.

(Appendix continues)

In Matrix D, the Strength of Friendship Matrix A is dichotomized. In this example values greater than or equal to two in Matrix A were recoded as zeros in Matrix D and values greater than two were recoded as ones.

| D: Dichotomized Friendship Matrix | | | | |
|-----------------------------------|------|-------|-------|------|
| | Jeff | Marta | Steve | Lisa |
| Jeff | | 0 | 1 | 1 |
| Marta | 1 | | 0 | 1 |
| Steve | 1 | 0 | | 1 |
| Lisa | 0 | 1 | 1 | |

The geodesic distance is the minimum number of "friend" ties necessary to link two individuals. This is shown in Matrix E. For example, Jeff is 2 links removed from Marta. In order to isolate third-party relationships all pairs of subjects that are linked by exactly two ties are recoded as 1, all others are recoded as 0. This is demonstrated by going from Matrix E to Matrix F.

| E: Geodesic Distance of Dichotomized Friendship | | | | |
|---|------|-------|-------|------|
| | Jeff | Marta | Steve | Lisa |
| Jeff | | 2 | 1 | 1 |
| Marta | 1 | | 2 | 1 |
| Steve | 1 | 2 | | 1 |
| Lisa | 2 | 1 | 1 | |

Number of links to get from row to column in dichotomized friendship matrix

| F: Third-Party Friendships | | | | |
|----------------------------|------|-------|-------|------|
| | Jeff | Marta | Steve | Lisa |
| Jeff | | 1 | 0 | 0 |
| Marta | 0 | | 1 | 0 |
| Steve | 0 | 1 | | 0 |
| Lisa | 1 | 0 | 0 | |

Third-Party Friendships and are recoded to 1

Matrix G is a repeated columns matrix that represents an attitude such as job satisfaction. It indicates that individual attitudes are stable regardless of whom the respondent is interacting with in a friendship or ICB relationship. For example, Jeff has a value of 3 on job satisfaction, while Marta has a value of 4. This matrix can be correlated with, or regressed on the other matrices.

| G: Repeated columns of attitude data | | | | |
|--------------------------------------|------|-------|-------|------|
| | Jeff | Marta | Steve | Lisa |
| Jeff | | 3 | 3 | 3 |
| Marta | 4 | | 4 | 4 |
| Steve | 3 | 3 | | 3 |
| Lisa | 1 | 1 | 1 | |

Received April 12, 2004
Revision received November 15, 2004
Accepted January 24, 2005 ■