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Social influence and perceived organizational support: A social networks analysis

Thomas J. Zagenczyk^{a,*}, Kristin D. Scott^a, Ray Gibney^b, Audrey J. Murrell^c, Jason Bennett Thatcher^a^a *Clemson University, Clemson, SC 29634, USA*^b *The Pennsylvania State University Harrisburg, Middletown, PA 17057, USA*^c *Katz Graduate School of Business, University of Pittsburgh, Pittsburgh, PA 15260, USA*

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ABSTRACT

We suggest that employees' perceptions of organizational support (POS) are not solely a product of independent evaluations of treatment offered by the organization, but are also shaped by the social context. We argue that coworkers will directly (through inquiry via cohesive friendship and advice ties) and indirectly (through monitoring of employees structurally equivalent in advice and friendship networks) affect employees' perceived organizational support. Network studies in the admissions department of a large public university and a private company specializing in food and animal safety products indicate that employees' POS are similar to those of coworkers with whom they maintain advice relationships as well as to those who hold structurally equivalent positions in organizational friendship and advice networks. Our work contributes to organizational support theory by developing and testing a theoretical explanation for the relationship between the social context and perceptions of support among employees. Implications for research and practice are offered.

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Introduction

Organizational support theory (OST; Aselage & Eisenberger, 2003; Eisenberger, Huntington, Hutchison, & Sowa, 1986) suggests that treatment offered by the organization (in terms of fairness, job conditions, and supervisory relationships) serves as a signal to employees regarding the extent to which the organization values their contributions and cares about their well-being (perceived organizational support; POS). Consistent with social exchange theory (Blau, 1964) and the reciprocity norm (Gouldner, 1960), POS obligates employees who feel supported to reciprocate by expressing greater affective organizational commitment, performing citizenship behaviors, and exhibiting lower levels of withdrawal (Rhoades & Eisenberger, 2002). As a result, organizations that foster POS within employees are thought to have a competitive advantage over organizations that do not (Pfeffer, 2005).

Our fundamental contention in this research is that the formation of POS is not solely psychological but also a social process influenced by information that employees acquire from the social context. Although OST research on the antecedents and consequences of POS offers relatively consistent results (see Rhoades and Eisenberger (2002), for a meta-analysis), we argue that its explanatory power is limited because it implicitly assumes that

employees independently observe and interpret treatment offered by the organization. As a result, OST provides only individual-level psychological explanations for employees' perceptions of treatment offered to them by the organization. Yet social exchange relationships in general (Emerson, 1976) and the formation of POS in particular (Eisenberger, Jones, Aselage, & Sucharski, 2004) require that employees collect and interpret a great deal of information, much of which can only be obtained through interaction with coworkers (Eisenberger et al., 2004) or by monitoring the organizational environment (Kiewitz, Restubog, Zagenczyk, & Hochwarter, 2009). Despite this, past theoretical and empirical research has devoted scant attention to the effects of the social context on employees' POS (Kiewitz et al., 2009). Although Eisenberger et al.'s (2004) theoretical work suggests that employees develop POS through socialization processes, it does not explicitly describe the manner in which coworkers and the overall social structure of the organization are related to POS. Accordingly, the objective of this study is to clarify how employees' direct relationships (advice and friendship ties) and positions in the social structure of the organization (advice and friendship structural equivalence) shape POS. We suggest that by expanding organizational support theory to account for social influence, we will increase its predictive validity.

To make our arguments, we draw on research on employee socialization (Morrison, 1993), social referent selection (Shah, 1998), and social influence (e.g., Burt, 1987; Festinger, 1954; Salancik & Pfeffer, 1978) to specify relationships between the social context and POS. We test our hypotheses in two social network studies in different settings – the admissions department of a large

* Corresponding author.

E-mail addresses: thomasj@clermson.edu (T.J. Zagenczyk), kscott3@clermson.edu (K.D. Scott), rfg14@psu.edu (R. Gibney), amurrell@katz.pitt.edu (A.J. Murrell), jthatch@clermson.edu (J.B. Thatcher).

public university and a private company specializing in food and animal safety product manufacturing and sales. We further elaborate on our theoretical model and predictions below.

Literature review and hypotheses development

Organizational support theory

Organizational support theory suggests that employees pay attention to treatment offered by the organization in order to discern the extent to which the organization is supportive and values their contributions (Eisenberger et al., 1986). To this end, employees infer that the treatment offered to them by agents of the organization is indicative of organization's overall favorable or unfavorable orientation towards them (Eisenberger et al., 1986). Accordingly, OST is rooted in Levinson's (1965) observation that employees personify and form social exchange relationships with their organizations. OST argues that treatment stemming from the organization or its agents serves as a signal to employees regarding the extent to which they are supported. For example, researchers have demonstrated that organizational justice promotes employee trust in the organization which reduces fears concerning inadequate compensation and job loss (Masterson, Lewis, Goldman, & Taylor, 2000; Wayne, Shore, Bommer, & Tetrick, 2002; Wayne, Shore, & Liden, 1997). Human resource practices such as inclusion, participation, rewards, developmental experiences, and promotions are indicative of the organization's respect for the ability of employees and thus relate positively to POS (Allen, Shore, & Griffeth, 2003; Hutchison, 1997; Wayne et al., 2002, 1997). Likewise, treatment offered by supervisors and leaders affects POS because they are regarded as a physical manifestation of the organization by employees (Eisenberger, Stinglehauser, Vandenberghe, Sucharski, & Rhoades, 2002; Levinson, 1965; Rhoades, Eisenberger, & Armeli, 2001; Wayne et al., 1997). Finally, treatment offered by the organization that is perceived as discretionary – or within the control of the organization – exerts a stronger influence on POS as this sends a stronger signal regarding the organizations' positive (or negative) orientation towards them (Eisenberger, Cummings, Armeli, & Lynch, 1997). When employees perceive that they are supported, they tend to be committed to and identify with the organization as well as help the organization succeed through citizenship behavior and decreased withdrawal behaviors (Rhoades & Eisenberger, 2002).

The social context and organizational support theory

Overall, OST offers a logical individual-level psychological explanation for the formation and consequences of POS. Yet the implicit assumption of social exchange theory and OST, that employees independently evaluate organizational treatment, leads to a relatively undersocialized view of employer–employee exchange. Emerson (1976) argues that social exchange theory (as conceptualized by Blau, 1964 and Homans, 1958) encompasses only the application of economic and individual psychological principles to dyadic relationships involving socioemotional resources. This view is limited, he reasons, because social exchange occurs within a social context which affects both perceptions of exchange relationships as well as the exchange behavior of individuals. The importance of the social context is exacerbated by the ambiguity and complexity characteristic of today's organizations (Martinko & Gardner, 1987; Salancik & Pfeffer, 1978). In such environments, employees have difficulty discerning who to credit (or blame) for treatment provided to them (Martinko & Gardner, 1987; Rentsch, 1990; Salancik & Pfeffer, 1978). As a result, employees collect data from coworkers and use it to evaluate their jobs,

work environments, and organizations (Friedkin, 1998; Ho and Levesque, 2005; Kiewitz et al., 2009; Salancik & Pfeffer, 1978). While these studies highlight that the subjective nature of employer–employee exchange relationships makes the social context an important determinant of how such relationships are perceived, they do not specifically illustrate how the social context affects POS.

Research on socialization in organizations may help us to understand the effects of the social context on POS (Eisenberger et al., 2004). Festinger (1954) argues, and Ostroff and Kozlowski (1992) demonstrate, that employees tend to rely on coworkers (as opposed to managers or even objective information) to understand norms, standards, and impressions of the organization. Morrison (1993) found that employees' acquire information through inquiry (asking questions directly) and monitoring (observation of the behavior and actions of others and asking third parties for information about what another thinks). Employees were more apt to look to coworkers (as opposed to supervisors) for information due to the perceived relevance of their views.

Eisenberger et al. (2004) argued that some of the same processes that occur during employee socialization shape the formation of support perceptions. Prior to employment, employees collect information about the way that the organization treats its employees from friends and family familiar with the organization. Upon beginning their employment, employees seek information which confirms and expands the knowledge that they have already collected. As a result, an employees' POS is a product of their observations of how the organization treats coworkers coupled with their view of organization treats them (Eisenberger et al., 2004). In sum, the research of Eisenberger et al. (2004) and Morrison (1993) suggest that employees' POS may be influenced by non-organizational agents via social influence which occurs through monitoring of and direct interaction with coworkers. Surprisingly, however, little or no empirical research has explored this proposition.

Social networks, social influence, and organizational support

In his critique of social exchange theory, Emerson (1976) suggested that researchers draw on social networks to explain the effects of the larger social system on dyadic exchange relationships. Social networks research focuses on patterns of social relations among a set of actors to explain social phenomena (Wasserman & Faust, 1994). Social network ties provide opportunities for employees to understand what others think, feel, say, and do about organizational events and are therefore the medium through which social influence occurs in organizations (Ibarra & Andrews, 1993; Krackhardt & Brass, 1994). Emerson argued that utilization of social networks could explain how the interaction of an individual within broader social network of actors affects how perceptions of exchange relationships develop. We apply this logic and argue that social influence will affect employees' perceptions of their exchange relationships with organizations.

Social influence can affect an individual's belief structure directly through cohesion or indirectly through structural equivalence (Burt, 1987). Cohesion occurs when a direct relationship, such as a friendship or advice relationship, exists between employees (Burt, 1987). Such direct relationships result in information exchange which results in similarity in perceptions and beliefs. Alternately, employees are said to be structurally equivalent to the extent that they share the same relationships with the same set of other people in the organization regardless of whether they are connected themselves (Lorrain & White, 1971). Employees who are structurally equivalent tend to see each other as comparable or substitutes for one another (Ho & Levesque, 2005) and, at times, competitors (Burt, 1987). As a result, structural equivalents often

adopt similar perceptions or attitudes due to the fact that they have ties with similar others and are thus exposed to the same information.

Shah (1998) argued that social networks research helps to explain from whom and how employees acquire information informally in organizations. Shah suggested that employees would monitor individuals who are structurally equivalent to themselves in organizational social networks to obtain job-relevant information, defined as technical and performance information that pertains to an employee's job, because competition often exists between structurally equivalent employees as they frequently occupy similar roles in the organization. Information seekers may fear they will be perceived as less competent if they attempt to acquire information from structural equivalents directly. On the other hand, employees are apt to seek general organizational information by asking cohesive coworkers directly. This is because asking about general organizational information, defined as normative and social information relevant to organizational information or adaptation to a firm's culture or social system, is less likely to make other employees doubt the competence of the employee. POS is influenced by both job-relevant information (performance reviews, feedback, etc.) and general organizational information, treatment provided by the organization that is not specifically related to employees' jobs. Thus, Shah's (1998) research suggests that POS will be shaped by both direct inquiry (of cohesive coworkers) and monitoring (of structural equivalents).

Cohesive ties and similarity in POS

In their articulation of social information processing theory, Salancik and Pfeffer (1978) argue that employees process social information that they acquire through direct interaction with cohesive ties. Interaction with coworkers makes certain dimensions of the workplace more salient, provides information on coworkers' evaluations of these dimensions, and affects how employees interpret and evaluate the organizational environment itself and the events that occur within it (Rentsch, 1990). Accordingly, Salancik and Pfeffer (1978) suggest that employees who interact tend to have greater interpersonal similarity with respect to perceptions or attitudes than do employees who do not interact. Research shows that social information processing results in similar perceptions of new technology (Rice & Aydin, 1991), job-related perceptions (Ibarra & Andrews, 1993), performance of citizenship behavior in workgroups (Bommer, Miles, & Grover, 2003), and interpretations of organizational events (Rentsch, 1990).

One network tie through which social information is exchanged is the advice tie. Advice ties are instrumental relationships through which employees share job- and organization related information (Ibarra, 1993) and are thus an important source of social information (e.g., Umphress, Labianca, Brass, Kass, & Scholten, 2003). Researchers have found that advice ties are related to employees' perceptions of procedural and interactional justice (Umphress et al., 2003) as well as beliefs about technology (Burkhardt, 1994). Advice givers are influential in organizations because they have high levels of task mastery and organizational knowledge (Morrison, 2002); as a result coworkers tend to trust that they have the ability and competence to provide help (Ho & Levesque, 2005; McAllister, 1995). Accordingly, asking an individual for advice is an indication of respect for the individual's opinion and an expectation that the information shared is useful and valuable (Ho, 2005). Therefore, advice-givers are perceived as powerful by their coworkers (e.g., Brass & Burkhardt, 1993). Evidence suggests that advice ties between employees result in organizational stability because they facilitate work-related information transfer, which serves to coordinate activities in the organization and reinforce organizational norms (Gibbons, 2004). Given that POS is at least

partly comprised of general organizational information and employees rely on advice ties when seeking to understand organizational information (Ho & Levesque, 2005), we hypothesize that employees will tend to adopt POS that is similar to the POS of employees who provide advice to them.

Hypothesis 1. Employees will have POS that is similar to the POS of coworkers from whom they receive advice.

While advice ties are instrumental ties, friendship ties promote candid information exchange because they are characterized by affect-based trust (Ibarra, 1993; Jehn & Shah, 1997). Information that is shared between friends is often the basis for social comparison (Wheeler & Miyake, 1992). Social comparison theory argues that individuals compare their opinions and outcomes to those of other relevant individuals to help develop their own beliefs (Festinger, 1954). Therefore, employees turn to friends to help them evaluate, or make sense of, the outcomes they receive from a third party (Ho, 2005). Such comparisons become more salient to employees when the value of the outcomes is subjective, when individuals have no objective standard for comparison, and when the evaluation is important (Festinger, 1954).

Given that POS is an employee's subjective perception of the extent to which he or she is supported by the organization, we expect that employees will pay attention to their friends' opinions regarding organizational treatment because they identify with them, trust them and value their opinions (Jehn & Shah, 1997). When an employee's friend is treated positively (negatively) by the organization, the employee may interpret the positive (negative) treatment provided to the friend as a signal that the organization favors (disfavors) him/her as well (Felson & Reed, 1986). Therefore, both employees' POS would increase (decrease) as a result of one employee in the friendship relationship's receipt of favorable (unfavorable) treatment. In support of this view, employees who are friends in the workplace tend to share similar perceptions of other coworkers (Krackhardt & Kilduff, 1990), make similar career decisions (Kilduff, 1990), vote the same way on union-related matters (Krackhardt, 1992), and share common beliefs regarding the manner in which the organization fulfills organization-wide promises (Ho & Levesque, 2005). Therefore, we argue that employees will tend to adopt similar POS to those of their friendship ties.

Hypothesis 2. Employees will have POS similar to the POS of coworkers with whom they have reciprocated friendship ties.

Structural equivalence and similarity in POS

As Shah (1998) suggests, employees also monitor structurally equivalent employees in order to acquire job-relevant information. Structural equivalence evaluates the extent to which two individuals are similar in terms of the relationships that they share, and do not share, with others in the organization (Lorrain & White, 1971). Therefore, structural equivalence can be conceptualized as the degree to which one employee's relationships with all other employees in the organization are correlated with a second employee's relationships with all other members of an organization, regardless of whether or not they have a direct tie to each other (Burt, 1987; Ferrin, Dirks, & Shah, 2006). Two employees who interact with the same group of employees, then, would have a high level of structural equivalence, while two employees who have completely different sets of relationships within the organization would have a low level of structural equivalence.

Because researchers have found that friendship and advice ties have different effects, we explored the effects of both advice and friendship structural equivalence. We reasoned that if advice and friendship ties can have differential relationships with outcomes,

it was reasonable to assume the same for advice and friendship structural equivalence – as these measures are a product of organizational advice and friendship networks. However, few studies have explored the joint effects of friendship and advice structural equivalence (for an exception, see [Ho and Levesque \(2005\)](#)); instead most studies use friendship, advice, or a combination of the two networks. Given that most structural equivalence studies have not assessed both friendship and advice structural equivalence, it is difficult to discern whether social influence occurred through structural equivalence of the network that was measured or structural equivalence of an unmeasured network. This idea is highlighted by [Ibarra's \(1993\)](#) work, she suggests that if both friendship and advice networks are not measured, it is difficult to say that the results outcomes of friendship ties were not an outcome of unmeasured advice ties, or vice versa. We apply the same thinking to structural equivalence.

As mentioned previously, [Shah \(1998\)](#) drew on [Burt's \(1987\)](#) research to argue that structural equivalence creates competition between employees because employees who occupy similar positions in the network often occupy similar roles in the organization. As a result, they tend to be competitive. Accordingly, employees tend to avoid seeking information directly from structurally equivalent coworkers, as they fear appearing incompetent. Nevertheless, employees pay careful attention to structural equivalents either by monitoring them ([Burt, 1987](#)) or by collecting information related to their attitudes, beliefs, and behaviors through third parties ([Morrison, 1993](#)). Specifically, [Shah \(1998\)](#) found that employees tended to monitor employees structurally equivalent to themselves in friendship networks in order to acquire job-relevant information. Also, [Ho and Levesque \(2005\)](#) showed that employees attended to advice and friendship structural equivalents to determine the extent to which the organization had fulfilled its promises to them.

We expect that structural equivalence will affect POS in two ways. First, similar role demands will result in employees having POS similar to the POS of advice structural equivalents. Shared role demands influence perceptions and attitudes because employees experience “similar information, requests and demands from members of their own role set, creating an information field in which they are embedded, which when internalized, creates even more powerful pressures to conform than discussions with similar alters” ([Hartman & Johnson, 1989, p. 525](#)). Employees who have similar roles in the context of the organization, then, would occupy similar positions in organizational processes, and as a result may come to view treatment from the organization in a similar fashion. For instance, [Krackhardt and Porter \(1986\)](#) observed that turnover in fast-food restaurants occurs through what they termed a “snowball effect”, that is, when employees observed that employees in structurally equivalent advice network positions left the organization, they took this as a signal that better alternatives were available to them and voluntarily terminated their employment as well. Similarly, [Burt \(1987\)](#) found that structurally equivalent doctors made similar decisions regarding whether or not to prescribe a new drug to patients. Likewise, structurally equivalent employees tend to have similar evaluations of non-profit organizations ([Galakiewicz & Burt, 1991](#)), perceptions of role ambiguity ([Hartman & Johnson, 1989](#)), and perceptions ([Rice & Aydin, 1991](#)).

Hypothesis 3. Employees who have greater structural equivalence in the advice network will have POS that are similar to one another.

On the other hand, employees may also develop similar POS to those of coworkers who are structurally equivalent to themselves in friendship networks because being a part of a common subset, or the same “social circle” might create interdependence because

structurally equivalent employees share common relationships with others ([Ferrin et al., 2006, p. 874](#)). [Ferrin et al. \(2006\)](#) suggest that this occurs because similar relationships create a sense of common fate amongst employees. In such a situation, employees may ask friends to ask others how they are treated so that they can better comprehend organizational treatment themselves. For instance, an employee may ask a friend what another employee (with whom s/he does not have direct relationships) thinks of a new organizational policy. The information acquired may help to shape the POS of the employee who sought it out. For instance, [Burt \(1982\)](#) showed that actors cognitively compare their own attitudes and behaviors to those of structurally equivalent others. In addition, individuals with similar positions in friendship networks may be exposed the same information as others who are structurally equivalent to themselves. As a result of their exposure to this information, they may come to develop similar POS to those of individuals in structurally equivalent positions in the friendship network.

Hypothesis 4. Employees who have greater structural equivalence in the friendship network will have POS that are similar to one another.

Method – Study 1

Sample and procedure

In Study 1, we conducted a field study with employees from the admissions department of a large public university in the eastern United States. Consistent with [Marsden's \(1990\)](#) suggestion, we bounded our data collection to members of a single organizational unit. At our research site, the admissions department is regarded as an independent organization run by a supervisor who is responsible for coordinating walking and bus campus tours for prospective students. In addition, employees perform telemarketing duties, help with two or three admissions programs per year, attend weekly organizational meetings, and represent the university on recruiting trips. Employees in this organization (part-time student workers) worked 25 h per week on average. In sum, this organizational unit has significant responsibility for identifying, creating, and maintaining programs that are relatively independent of other parts of the organization.

Data were collected during a meeting sponsored by the organization. Respondents were told that the purpose of the survey was to investigate their experiences and the knowledge they had gained while performing their jobs. Employees were assured that their responses would remain confidential. To encourage participation, six \$50 gift certificates to local businesses were provided to randomly selected employees following the debriefing of respondents after the survey was completed.

Of the 138 members in the work unit, 101 were present at the meeting and complete data was obtained from 93 employees yielding a 67% response rate. Because we were examining dyads as the unit of analysis, we constructed a 93×93 square matrix. Since employees did not describe relationships with themselves, there were $(N * (N - 1))$, or 8556 observations. The mean tenure of employees was of 1.94 years ($SD = 3.78$), while mean age was 20.5 years. The sample was 60.2% female and 80.6% Caucasian, 11.8% African-American, 5.4% Asian, and 2.2% other.

In our survey, we collected data on social network ties, perceived organizational support and demographic information. To identify social network ties, respondents were given a roster which included the names and pictures of all employees and were asked questions about their relationships with coworkers ([Marsden, 1990](#)). Pictures were provided so that employees could be certain

that they correctly identified others employees in the organization. Respondents were also asked about their perceptions of organizational support and demographic information including gender, race, and tenure in the organization.

Measures

We collected data on two independent variables (advice ties and friendship ties), one dependent variable (POS), and three control variables (gender, tenure, and race). We used the data collected on advice and friendship networks to compute advice and friendship structural equivalence scores (Borgatti, Everett, & Freeman, 2002) and the POS data to create POS similarity scores.

Social network measures

All network measures were collected using a single item (e.g. Umphress et al., 2003). While multi-item scales are preferable, such scales are difficult to administer in social networks research due to time- and fatigue-related concerns. Use of multi-item scales would require that respondents respond to a multi-item scale 137 times. The time and cognitive effort required to fill out such a survey would result in lower response rates and more error in our data (e.g., Ferrin et al., 2006; Ho & Levesque, 2005; Ibarra & Andrews, 1993). As a result, social network analysis research most frequently relies on single-item measures of dyadic relationships (e.g., Umphress et al., 2003). Substantial research suggests that single-item measures are acceptable when situational constraints render multi-item scales impractical (Wanous, Reichers, & Hudy, 1997). When using single-item measures, Sackett and Larson (1990) suggest that researchers provide unambiguous, focused information in the question. As a result, in our survey design, we minimized ambiguity by providing a detailed explanation of each tie.

Advice ties were measured by asking each respondent to identify those employees who “provide job-related advice, meaning that this person has been a source of information related to your job as a member of this organization” (yes/no) (Ibarra, 1993). Friendship networks were measured by asking respondents to identify those coworkers who they considered as friends, which were defined as individuals “who you see as an organization member as well as socially – outside of activities related to the organization” (yes/no) (Morrison, 2002). In order to increase the accuracy of our measure of friendship ties, only reciprocated friendship ties (ties that were acknowledged by both members of the dyad) were included in the analysis (Hammer, 1985). Utilization of reciprocal ties minimizes single-source bias because the existence of a friendship tie is validated by both parties rather than just a single employee. We did not require that advice ties be acknowledged by both individuals in the relationship since such ties may be unidirectional ((Postmes, Tanis, & de Wit, 2001). A unidirectional advice tie occurs when employee A provides advice to employee B, but employee B does not provide advice to employee A.

Matrixes were constructed for both advice and friendship networks. Unlike most social science research in which the individual level of analysis is examined, the level of analysis in this study is the dyad. Therefore, each variable is represented as a matrix in which rows and columns represent actors and cells represent a relational state between actors (Raider & Krackhardt, 2001, p. 68). A 1 was entered in cell X_{ij} if an advice tie existed between employees i and j . If no advice tie existed, a 0 was entered into the advice matrix. The same procedure was utilized to create the friendship matrix.

Friendship and advice structural equivalence scores were computed in terms of degree with the Pearson product coefficient for each pair of actors based on the row and column entries in the matrices. A pair of employees with a higher correlation coefficient

have a higher level of structural equivalence and thus hold positions in the social structure that are more similar than employees with a lower correlation coefficient (Borgatti et al., 2002).

Similarity in perceived organizational support

Utilization of similarity as a measure of social influence is consistent with many other social influence studies (e.g. Burkhardt, 1994; Ibarra & Andrews, 1993; Umphress et al., 2003). Accordingly, we measured similarity in POS as the extent to which the focal employee's POS was similar to those of each of his/her network ties. To calculate similarity, we first measured POS using the eight-item version of the Short Survey of Perceived Organizational Support (SPOS; Eisenberger et al., 1997). Sample items from the scale include: ‘My organization values my contributions to its well-being’ and ‘My organization strongly considers my goals and values.’ Cronbach's alpha for this scale was .84. Participants responded using a five-point Likert scale ranging from 1 = strongly disagree and 5 = strongly agree. Next, each participant's responses to the SPOS were averaged to create a mean POS score in which higher scores represented higher levels of POS. Next, the degree of dissimilarity was computed by taking the absolute difference between individual i 's mean POS score and individual j 's mean POS score (Meyer, 1994). Finally, the difference scores were used to create a POS dissimilarity matrix in which smaller numbers represented greater interpersonal similarity in POS. Consistent with Umphress et al. (2003), we reversed the signs in the tables presented in this paper so that positive coefficient scores represent greater similarity in POS (as well as tenure, gender, and race).

Control variables

Similarity with respect to organizational tenure, gender, and race were utilized as control variables. Tenure in the organization was operationalized as the number of years an employee had been a member of the organization. We controlled for tenure to rule out the possibility that employees who entered the organization at the same time had similar levels of POS. Tenure was measured in years with the organization. Consistent with most POS research (Rhoades & Eisenberger, 2002), gender (a dummy variable in which 0 = male and 1 = female) was utilized as a control variable. Race was dummy coded with 0 = white and 1 = other and included as a control for the same reason as gender. Similarity matrixes were constructed for all control variables based on absolute difference values with respect to each variable. For example, with respect to gender, two females would have similar gender because (dummy variable) 1 – (dummy variable) 1 = 0.

Analysis and results

In this research, the level of analysis is the dyad. Accordingly, each variable is represented as a matrix in which rows and columns represent actors and cells represent a relational state between actors (Raider & Krackhardt, 2001, p. 68). When dyads are considered, there may be high levels of autocorrelation among the error terms when traditional statistical procedures are used. Accordingly, it is inappropriate to analyze dyadic data using Ordinary Least Squares Regression, PLS or LISREL. Social networks researchers suggest using a test that is robust to autocorrelation such as quadratic assignment procedure (QAP) regression (Krackhardt, 1988). QAP offers permutation-based tests of significance which are more resistant to autocorrelation problems than are traditional regression models (Raider & Krackhardt, 2001). Therefore, data analysis was conducted using UCINET 6 for Windows, a network analysis program developed by Borgatti et al. (2002).

Quadratic assignment procedure correlation analysis was utilized to generate a bivariate correlation matrix and quadratic

assignment procedure regression was used to test the hypotheses. QAP correlation analysis has two steps. In the first step, Pearson's correlation coefficients for corresponding cells in the two matrices are computed. Then the program permutes the rows and columns of one matrix and calculates the correlation between the matrices. This is repeated 1000 times; each correlation from Step 1 is compared with Step 2 in an effort to determine the number of times the correlation generated by random permutations is larger or equal to the Step 1 correlation.

To test all hypotheses, the POS similarity matrix was regressed on the social network matrices and control variable matrices using multiple regression QAP analysis. MRQAP analysis works in much the same way that QAP correlation analysis works. First, the program conducts standard multiple regression across corresponding cells of the POS matrix, the social networks matrices, and the control variable matrices (Borgatti et al., 2002). Next, all rows and columns from the POS matrix are permuted randomly and the regression coefficient is recomputed. This step occurs 1000 times in an effort to estimate the standard error. The results from this second step are in the form of R^2 values and regression coefficients. Each of the coefficients from Step 2 is compared to the coefficient produced in Step 1. Following this, the procedure computes the number of random permutations needed in Step 2 to produce results as extreme as those produced in the first step. If a low proportion of similar results are found in Step 2 when compared with Step 1, a significant relationship is indicated (Raider & Krackhardt, 2001).

Before presenting the results, it is important to discuss some differences that exist between OLS and QAP regression. The fact that QAP utilizes permutation-based hypothesis tests means that we cannot calculate degrees of freedom or statistical power as is traditionally done using OLS regression techniques (Ferrin et al., 2006). Further, equivalent correlations and beta values may not represent equal levels of significance because the structure of network data limits the possible number of correlations (Gibbons, 2004). Accordingly, R^2 may be smaller than regular OLS regression as well. Therefore, the primary statistic of interest is the p -value. A p -value of .01 means that 1% of the permutations demonstrated a greater correlation than what was observed (Gibbons, 2004).

Table 1 provides the means, standard deviations and QAP inter-correlations for all variables. Cronbach's alpha for the eight-item Survey of Perceived Organizational Support was .84, which is consistent with past research which reports alphas that range from .77 to .90 (Rhoades & Eisenberger, 2002). Advice ties and friendship ties were significantly related ($r = .32, p < .01$), indicating that friendship and advice networks overlapped to some degree.

The results for the QAP regression analysis are presented in Table 2. In order to discern the amount of variance explained by control variables compared to our independent variables, we first regressed the POS similarity matrix on the control variables (Step 1). Following this, we regressed the POS similarity matrix on all

of the control and independent variables (Step 2). The presentation of results in the following paragraphs corresponds to Step 2. With respect to the control variables, our results showed that similarity in gender ($\beta = .13, p > .05$) and race ($\beta = .26, p > .05$) were not significantly related to similarity in POS. However, similarity in tenure was negatively and significantly related to similarity in POS ($\beta = -.05, p < .05$). This suggests that employees with similar organizational tenure tend to differ with respect to their perceptions of support. In all, control variables accounted for 3% of the variance in similarity in POS.

Hypothesis 1 stated that advice ties between employees would be positively related to similarity in POS. We found support for this hypothesis, as advice ties between employees were significantly and positively related to similarity in POS ($H1: \beta = .20, p < .05$). Hypothesis 2, which stated that friendship ties between employees would be positively related to similarity in POS, was not supported ($H2: \beta = .04, p > .05$). Hypothesis 3, which predicted that structural equivalence in the advice network would be positively related to similarity in POS, was supported as well ($H3: \beta = .04, p < .05$). Finally, we found support for Hypothesis 4, as structural equivalence in the friendship network was related to similarity in POS ($H4: \beta = .07, p < .05$). In all, independent variables explained 10% of the variance beyond the control variables.

Methods – Study 2

Study 1 provided some empirical support for our hypotheses in a field study. However, it is reasonable to question whether the results are generalizable to other settings because the sample included mainly part-time student workers who worked 25 h per week with potentially high levels of turnover. In addition, there are other theoretically relevant variables, beyond demographic characteristics, that may influence employee POS – such as reporting structure, similarity with respect to supervisor satisfaction, and workflow ties. For these reasons, we felt it was important to attempt a constructive replication (Lykken, 1968) using a more traditional organizational setting with full-time employees. Accordingly, we conducted Study 2 to address these limitations by controlling for these potential confounds and replicating our analysis in a different organizational context.

Sample and procedure

Participants were 183 employees in a mid-size company specializing in food and animal safety product manufacturing and sales in the Midwestern US members of the research team used a private conference room within the participating organization and employees were randomly assigned designated times to complete the survey. After confidentiality assurances were given, voluntary participation was encouraged in an email memo. Missing

Table 1
Means, standard deviations and QAP correlations for variables in Study 1.

Variable	Mean	SD	1	2	3	4	5	6	7	8
1. Similarity in tenure	1.94	1.26	–							
2. Similarity in gender	–	–	–.13	–						
3. Similarity in race	–	–	–.01	.12	–					
4. Advice ties	18.38	17.54	–.01	.00	.00	–				
5. Friendship ties	20.62	12.20	–.36**	–.13	–.18	.32**	–			
6. Advice structural equivalence	.17	.05	–.04	.01	.00	.15**	.04	–		
7. Friendship structural equivalence	.09	.05	–.02	–.01	.00	.04	.05	.04	–	
8. Similarity in perceived organizational support (POS)	3.21	.67	–.11**	.05	.06	.12*	.07*	.04*	.03*	–

Note: N = 93. Gender was coded as male = 0, female = 1. Race was coded as white = 0, non-white = 1. Tenure = yrs in org.

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

Table 2
Quadratic assignment regression analysis predicting perceived organizational support from network variables in Study 1.

Variable and step	Similarity in perceived organizational support		
	β	R^2	ΔR^2
<i>Step 1: controls</i>			
Similarity in tenure	.00		
Similarity in gender	.07		
Similarity in race	.26	.03	.03
<i>Step 2: network variables</i>			
Similarity in tenure	-.05**		
Similarity in gender	.13		
Similarity in race	.26		
Advice ties	.20*		
Friendship ties	.03		
Advice structural equivalence	.04*		
Friendship structural equivalence	.07*	.10	.13

Note: $N = 93$; 8556 observations. Unstandardized beta coefficients are reported. All variables are similarity matrices.

* $p < .05$.

** $p < .01$.

data on key variables reduced the sample to 154 participants (response rate: 84%). As in Study 1, we constructed matrixes to represent all of our variables (154×154). Since employees did not describe relationships with themselves, there were ($N * (N - 1)$), or 23,256 observations. Of the participants, 78 (51%) were female, with an average age of 38.8 years ($SD = 11.4$) and an average tenure of 4.10 years ($SD = 4.19$). With respect to ethnicity, Caucasians comprised 87% of the sample while 6.5% were African-American, 3.2% were Hispanic, and 3.3% were Asian. An analysis of non-respondent demographic data (i.e., gender, age, tenure and education) indicated that survey participants differed from non-respondents in terms of age and tenure (i.e., non-respondents were older and had more tenure on average).

In Study 2, network data was collected in a manner similar to Study 1. The only difference in our procedure was that we were unable to provide photographs of all employees to the respondents in Study 2. To identify network ties, respondents were given a roster including the names of all employees and were asked questions about their workflow, advice, and friendship relationships with coworkers. We asked respondents the names of their supervisors and the extent to which they were satisfied with their supervisors. Respondents were also asked about their perceptions of organizational support as well as demographic information including gender, race, and tenure in the organization.

Measures

The social network measures (direct advice and friendship ties, advice and friendship structural equivalence), POS (eight-item version of the Short Survey of Perceived Organizational Support; Eisenberger et al., 1997; $\alpha = .89$) and demographic control variables (tenure, gender, race) in Study 2 were identical to those used in Study 1.

Additional controls

In Study 2, we also controlled for reporting structure, similarity in satisfaction with supervision, and workflow ties to rule out the possibility that these variables accounted for similarity in POS. In their seminal paper, Eisenberger and colleagues (1986) argue that perceptions of support develop as a result of employees' tendency to personify the organization and attribute actions taken by its agents to the intent of the organization itself rather than to the individual motives of organizational agents (Levinson, 1965). That is, employees believe that the actions of their supervisors are rep-

resentative of the organization's positive or negative orientation towards them. Supervisors are considered particularly important because they are responsible for directing and evaluating subordinates' performance, as well as conveying these evaluations to higher-level managers (Eisenberger et al., 2002). As a result, it is possible that employees who work under the same supervisors would tend to have similar levels of POS, or that employees who are similarly satisfied with supervision may tend to have similar POS as well.

Accordingly, we included reporting structure and similarity in supervisor satisfaction as control variables in Study 2. The 154 employees in Study 2 worked under 34 supervisors. If two employees worked for the same supervisor, we entered a 0 in the corresponding cell in the reporting structure matrix. If they had different supervisors, we entered a 1, indicating dissimilarity. We used the four-item scale offered by Hackman and Oldham (1975); $\alpha = .92$ to measure satisfaction with supervision. Employees were asked to rate their satisfaction with various aspects of supervision on a scale of 1–5 (1 = low, 5 = high) including “the degree of respect I receive from my supervisor,” “the degree of fair treatment I receive from my supervisor,” “the amount of support and guidance I receive from my supervisor”, and “the overall quality of the supervision I receive in my work.” Next, each participant's responses to this scale were averaged to create a mean satisfaction with supervision score in which higher scores represented higher levels of satisfaction with supervision. Following this, the degree of dissimilarity was computed by taking the absolute difference between individual i 's mean satisfaction with supervision score and individual j 's mean satisfaction with supervision score (Meyer, 1994). These difference scores were used to make a satisfaction with supervision dissimilarity matrix in which smaller numbers represented greater interpersonal similarity in satisfaction with supervision. As in our POS similarity matrices, signs were reversed so that positive coefficient scores indicate greater similarity in satisfaction with supervision.

We also included workflow ties as a control variable to account for the possibility that working together – but not necessarily asking for advice or forming a friendship – was responsible for similarity in POS. Like Umphress et al. (2003), we asked employees to indicate whether or not they were required to interact with every other individual to get their job done. We created a workflow ties matrix in the same manner that we created our advice and friendship matrices.

Analysis and results

As in Study 1, quadratic assignment procedure correlation analysis was utilized to generate a bivariate correlation matrix and MRQAP was used to test the hypotheses. Table 3 provides the means, standard deviations, reliabilities, and QAP intercorrelations for all variables. Like in Study 1, advice ties and friendship ties and friendship ties were significantly related ($r = .07, p < .01$), indicating that friendship and advice networks overlapped to a degree. Similarity with respect to tenure was positively and significantly correlated with advice ties ($r = .03, p < .05$) and structural equivalence in the advice network ($r = .02, p < .05$), but not similarity in POS ($r = -.01, p > .01$). Similarity in satisfaction with supervision was also positively and significantly correlated with similarity in POS ($r = .27, p < .01$). As expected, advice ties ($r = .02, p < .05$), advice structural equivalence ($r = .03, p < .05$), and friend structural equivalence ($r = .03, p < .05$) were positively and significantly related to similarity in POS. Surprisingly, friendship ties were not ($r = .01, p > .05$).

The results for the QAP regression analysis are presented in Table 4. In order to determine how much variance was explained

Table 3
Descriptive statistics and quadratic assignment procedure correlations for Study 2 variables.

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Similarity in tenure	4.10	4.19											
2. Similarity in gender	–	–	.01										
3. Similarity in race	–	–	–.06	.00									
4. Similarity in department	–	–	.02	–.03*	.01								
5. Similarity in reporting structure	–	–	.00	.02*	.02	.15**							
6. Similarity in supervisor satisfaction	3.76	.96	–.06*	.00	.03*	.01	.00						
7. Workflow ties	5.23	4.38	.01	–.02	–.04*	.19**	.20**	–.02					
8. Advice ties	4.03	3.58	.03*	–.03*	–.02	.11**	.12**	–.02	.39**				
9. Friendship ties	2.04	2.42	–.01	–.02	–.01	.11**	.09**	–.01	.09**	.07**			
10. Advice structural equivalence	.02	.01	.02*	–.02*	–.03*	.26**	.27**	–.01	.40**	.30**	.13**		
11. Friendship structural equivalence	.02	.01	–.01	–.01	–.02	.14**	.11**	.02	.17**	.13**	.12**	.27**	
12. Similarity in perceived organizational support	3.31	.67	–.01	.00	.10*	.01	.00	.27**	.02*	.02*	.01	.03*	.03*

Note: N = 154; 23,256 observations. Gender was coded as male = 0, female = 1. Race was coded as white = 0, non-white = 1. Tenure = yrs in org. Reporting structure describes whether or not employees shared a supervisor (0 = shared; 1 = not shared).

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

Table 4
Quadratic assignment regression analysis predicting perceived organizational support from network variables in Study 2.

Variable and step	Similarity in Perceived Organizational Support		
	β	R ²	ΔR ²
<i>Step 1: controls</i>			
Similarity in tenure	.00		
Similarity in gender	.01		
Similarity in race	.13*		
Similarity in department	.04		
Similarity in reporting structure	.00		
Similarity in supervisor satisfaction	.19**		
Workflow ties	.01	.01	.01
<i>Step 2: network variables</i>			
Similarity in tenure	.00		
Similarity in gender	.01		
Similarity in race	.12		
Similarity in department	.04		
Similarity in reporting structure	.01		
Similarity in supervisor satisfaction	.19**		
Workflow ties	.01		
Advice ties	.10*		
Friendship ties	.06		
Advice structural equivalence	.16*		
Friendship structural equivalence	.16*	.08	.09

Note: N = 154; 23,256 observations. Unstandardized beta coefficients are reported. All variables are similarity matrices.

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

by control variables relative to independent variables of interest, we regressed the POS similarity matrix on the control variables in Step 1 and then on all variables in Step 2. All results reported in the following paragraphs correspond with the Step 2. Our results concerning control variables show that only similarity in satisfaction with supervision was positively and significantly associated with similarity in POS ($\beta = .19, p < .01$). In sum, the control variables accounted for 1% of the variance in similarity in POS.

Hypothesis 1 stated that advice ties between employees would be positively related to similarity in POS. As in Study 1, we found support for this hypothesis, as advice ties between employees were significantly and positively related to similarity in POS ($H1: \beta = .10, p < .05$). **Hypothesis 2**, which stated that friendship ties between employees would be positively related to similarity in POS, was not supported ($H2: \beta = .06, p > .05$). Again, our result is consistent with our findings from Study 1. **Hypothesis 3**, which predicted that structural equivalence in the advice network would be related to similarity in POS, was supported ($H3: \beta = .16, p < .05$.) as was

Hypothesis 4, which predicted that structural equivalence in the friendship network was related to similarity in POS ($H4: \beta = .16, p < .05$).

Discussion

Our study responds to calls for research on the effects of context on organizational phenomena in general (e.g., Johns, 2006) and perceived organizational support in particular (Eisenberger et al., 2004). This is important because the extant research examining POS has focused almost exclusively on consequences (Rhoades & Eisenberger, 2002) and to a lesser extent antecedents (e.g., Wayne et al., 1997; Wayne et al., 2002) of POS, with little attention directed to considering how the social context may influence employees' POS. We argue that addressing this gap in the literature is important, given that POS is subjective (Eisenberger et al., 1986) and that organizations are complex, ambiguous social systems (Salancik & Pfeffer, 1978). In such circumstances, employees collect social information from coworkers either directly via inquiry or indirectly via monitoring (Shah, 1998) in order to better understand what is happening in the workplace (Morrison, 1993). The social information that employees collect shapes their perceptions of their own situations by focusing their attention on some aspects of the work environment and away from others as well as influencing their evaluations of certain situations (Salancik & Pfeffer, 1978).

Accordingly, the objective of our study was to explore the effects of the social context (direct advice and friendship relationships, advice and friendship structural equivalents) on employees' POS. We tested our hypotheses using two social network studies in different contexts – the admissions department of a large public university (Study 1) and a private company specializing in food and animal safety product manufacturing and sales (Study 2). Notably, we found consistent results across both studies and support for three of our four hypotheses. The results of Study 2 are particularly relevant, as social contextual factors were significantly related to similarity in POS even though we included a number of traditional antecedents of POS as control variables. Specifically, we found that employees had POS that was similar to the POS of: (1) employees with whom they maintained advice relationships (advice ties; H1); (2) employees who occupied similar positions in organizational advice networks (advice structural equivalents; H3); and (3) employees who occupied similar positions in organizational friendship networks (friendship structural equivalents; H4). Somewhat surprisingly, employees did not have POS that was similar to the POS of employees with whom they maintained friendship ties as we hypothesized.

Theoretical and practical implications

First, our research contributes to OST. Our fundamental contention in this research was that the formation of organizational support is a social process as well as a psychological one. OST research examining the processes through which POS is formed and how it affects outcomes has drawn largely on attribution theory and social exchange, individual-level psychological processes. Certainly, understanding these psychological processes has produced a large body of research with relatively consistent results (Rhoades & Eisenberger, 2002; Riggle, Edmondson, & Hansen, 2009). However, our findings suggest that OST may gain predictive validity by considering the role that non-organizational agents play in shaping POS. In particular, our research suggests that employees pay attention not only to treatment afforded them by the organization, but also to how this treatment is perceived by coworkers with whom they share advice, as well as to coworkers who reside in structurally equivalent social network positions. To this end, the results of Study 2 are particularly relevant, as the social contextual factors we measured were significant even when workflow ties, reporting structure, supervisor satisfaction, departmental affiliation, and demographic variables were entered as controls. Accordingly, we suggest that the underlying logic of OST – that employees infer the organization's positive or negative orientation towards them from treatment provided – could be expanded to account for social influence stemming from coworkers with whom a focal employee interacts or monitors.

Second, our research makes contributions to social influence research. That we found that employees tend to have POS similar to those of advice ties provides additional evidence for the importance of understanding the influence of social information processing in the workplace (Salancik & Pfeffer, 1978). We reason that this is the case because individuals seek advice from individuals who are regarded as powerful and important (Brass & Burkhardt, 1993) and thus socially influential (Umphress et al., 2003). Further, our research also adds to the growing body of research which suggests that structural equivalence results in perceptual similarity in the workplace, either through monitoring of relevant others or through exposure to similar information (e.g., Ferrin et al., 2006; Shah, 1998). Of note in our study was that both advice and friendship structural equivalence were related to similarity in POS. We elected to include both of these variables – as opposed to including either friendship, advice, or a combination of the two – because different networks are argued to have differential effects on outcomes (e.g., Gibbons, 2004; Ibarra, 1993). In our studies, however, we found that both of these mechanisms were related to similarity in POS. Overall, our findings related to structural equivalence suggest that norms towards the evaluation of the employer–employee social exchange relationship tend to develop among groups of employees who interact with the same set of coworkers.

While structural equivalents in the friendship network tended to have similar POS, employees tended to have POS that was neither significantly similar (as hypothesized in H2) nor significantly dissimilar to the POS of coworkers with whom they maintained direct friendship ties. One potential explanation for these results stems from social comparison theory. When making social comparisons, focal individuals may not evaluate the absolute value of an outcome they receive from an employer, but instead anchor their evaluations in relation to outcomes that relevant others – usually friends (Wheeler & Miyake, 1992) – have received (Festinger, 1954). We reasoned that because employees interpret the POS of friends as a signal of the extent to which they are supported by the organization themselves (Crosby, 1984), they would tend to develop POS similar to the POS of friendship ties. Tesser's (1988) self-evaluation maintenance model suggests that the salience of an outcome offered by a third party to an individual determines

whether social comparison will yield similarity or dissimilarity in perceptions. Outcomes salient to an individual's self-concept tend to breed dissimilarity, while outcomes that are not as salient result in similarity in perceptions of the third party. For example, if the friend received a promotion that the employee desired, his or her POS could become dissimilar to the POS of the friend, as the threatening social comparison would harm the focal employee's self-concept (Tesser, 1988). In this scenario, the POS of the employee who received the promotion would increase, while the POS of the individual that did not receive the promotion would stay the same or decrease, and the POS of both employees would become dissimilar. On the other hand, a focal employee's POS would likely increase (and become more similar to the friend's POS) if a friend received a training opportunity that the employee was not interested in having for him/herself, or if all employees received an across-the-board raise or a new benefit from the organization. Indeed, research shows that POS is important to employees' self-concepts (Fuller, Barnett, Hester, Frey, & Relyea, 2006) and that treatment personalized to an individual employee is more strongly associated with POS than organizational treatment offered to all employees (Rhoades & Eisenberger, 2002). Thus, we suspect that certain aspects of POS (promotions, raises, bonuses, awards, idiosyncratic deals, etc.) are particularly important to employee self-concepts, and that these aspects of POS may cause disassociation and thus dissimilarity in POS. However, organizational treatment offered to all employees (health care, across-the-board pay raises, HR policies, etc.) likely creates similarity in POS, as these practices are not particularly relevant to the self-concepts of individual employees, and events in organizations that affect all employees (as opposed to personalized treatment) may occur more frequently and thus also influence POS. Thus, some aspects of organizational treatment may create divergence in employee POS, while other aspects may foster similarity. Because POS is a global measure which does not have separate questions for organizational vs. job-relevant treatment, we cannot resolve this question in our data. However, teasing out the effects of different aspects of organizational support (relevant to self-concept vs. irrelevant to self-concept) may be a useful direction for future research that seeks to understand the relationship between friendship ties and similarity in POS.

A second possible explanation for the absence of support for the hypothesized effects of friendship ties can be gleaned from Gibbons' (2004) research on friendship and advice networks in schools. Gibbons reasoned that advice ties – characterized by cognitive trust – reinforced existing professional values. However, employees were more apt to share information which differed from accepted values in the organization with friends, as these relationships were more stable and presumably driven by affect or similarity as opposed to dependence. Thus, friendship ties lead to changes in professional values in the four schools in Gibbons' study, while advice ties reinforced existing norms.

It is also interesting that while employees had POS that was similar to friendship structural equivalents, it was not similar to the POS of coworkers with whom they maintained direct friendship relationships. It is possible that employees may maintain friendships due to common interests which are unrelated to the organization. For instance, a finance or accounting employee may maintain a friendship with a secretary or janitor due to a shared interest or hobby (such as knitting, college football, or fishing). In such a scenario, the basis for the employees' friendship may be largely unrelated to the organization, and such friends may have very low structural equivalence despite the fact that they maintain a friendship. The fact that the relationship is not focused on the organization, along with the fact that employees have very little in common with respect to their structural position in the organization, may make both employees recognize that treatment afforded to the other is not relevant to their own perceptions of support. On

the other hand, employees who do not maintain direct friendship ties may, due to structural equivalence, tend to have similar POS due to their connections to similar influential others or tendency to pay attention to similar information available in the organization (Ferrin et al., 2006). Thus, although they have no direct relationship (and perhaps no reason to develop such a relationship), they adopt similar POS due to the fact that they are exposed to the same information as a result of the similar structure of their friendship networks.

A third contribution of our research is our use of a multiple study design to test our hypotheses. Indeed, the fact that we found consistent results in two samples in completely different contexts (the admissions department of a university and a company specializing in food and animal safety product manufacturing and sales) lends greater credibility to and increases the external validity of our findings. Replications are generally rare (Hubbard, Vetter, & Little, 1998) and are particularly rare amongst studies drawing on social networks methodologies (Umphress et al., 2003). However, a number of scholars make strong arguments for their importance. For instance, Rosenthal and Rosnow (1984) suggest that replications are a critical precursor to the creation of scientific knowledge. Similarly, Popper (1959) advocated multi-study designs, arguing that “only by such repetitions can we convince ourselves that we are not dealing with a mere isolated ‘coincidence’” (p. 45) while Lindsay and Ehrenberg (1993) suggested that results not subjected to replication were “virtually meaningless and useless” (p. 219). That our findings were consistent across studies provides additional confirmation of our works’ contribution to deepening understanding of how the social context influences POS as well as support for the relevance of SIP to understanding employees’ ties to their employing organization.

Beyond conceptual and theoretical contributions, this study has practical implications for managers. While many organizations may recognize that employees tend to compare the treatment that they receive to the treatment received by others, our findings direct attention to specific social influences that are perhaps more relevant. In particular, our results speak to the fact that monitoring or exposure to similar social information in friendship and advice networks may play an important role in shaping employees’ POS. Further, advice relationships may be more influential than are friendship ties. Therefore, companies must be concerned not just with how they treat individual workers, but rather with how they treat all workers in the organization, as employees believe that such treatment is indicative of the manner in which they are treated. Even small numbers of employees who believe that the organization does not support them could create pervasive sets of negative beliefs among other employees with whom they share advice as well as to those who are in structurally equivalent network positions (Krackhardt & Porter, 1986). For example, when the organization fails to support an employee who is an important source of advice for other employees, that employee’s beliefs that the organization is unsupportive may spread directly and indirectly through organizational social networks. However, if this employee feels supported, a multiplicative effect may pervade the organization, and employees who have lower POS will adjust their perceptions of support to be consistent with the focal advice-providing employee. This suggests that managers should pay close attention to how they handle situations which may have network effects and lower POS among employees, such as downsizing, performance evaluation, and pay cuts. Perhaps managers should do their best to ensure that positive beliefs about organizational support prevail among individuals who occupy central positions in advice networks. When sources of negative outcomes are beyond the manager’s control, they should communicate to ensure that highly influential employees understand that the treatment that they are receiving results from external sources and will be rectified

as soon as possible, thereby signalling to these employees that they are valued and avoiding low levels of POS throughout the organization (see also Zagenczyk, Gibney, Kiewitz, & Restubog, 2009).

Second, our results have implications for employee perceptions concerning their relationships with leaders, such as leader–member exchange (LMX; Graen & Cashman, 1975). Leader behaviors are inherently subjective, as is POS. Thus, it is possible that social influence might sway employee beliefs regarding their leaders in the same manner that it affects their perceptions of their organizations. For instance, employees may turn to social information (via monitoring or direct interaction) to further interpret or better understand the underlying meaning of leader behaviors. In this way, employee attitudes and perceptions regarding their relationship with organizational leaders are not limited to the direct relationship between the employee and his or her manager. Rather, the results of our studies suggest that this relationship may also be influenced by an employee’s network of relationships throughout the organization. Therefore, we suggest that future work in this area may be more fruitful if scholars consider the social context and its influence on LMX and employee outcomes.

Directions for future research

This study suggests several directions for future studies. First, research could more thoroughly investigate the directionality of advice ties.¹ In this study, we examined only whether an employee gave advice to another employee. While we think this is important, interesting information may have been obtained if we had inquired as to whether employees had requested advice. We speculate that requested advice would be more influential than advice which was offered, and perhaps not desired. Future research studies examining whether advice ties resulting from individuals requesting or being given advice could demonstrate different relationships with POS could yield rich insight into individual behavior in organizations.

Second, recognizing that employees’ POS is influenced by informal relationships suggests that perhaps other individuals who an employee interacts with may influence their perceptions of support as well. For instance, it is possible that the opinions of family and friends may affect an employee’s beliefs regarding organizational support when they offer their own opinions (Eisenberger et al., 2004). For example, an employee who feels valued by the organization as a result of receiving a 5% raise may not feel quite as important upon learning that friends and family members have received 10% raises from their organizations. Further, employees may collect information which affects POS from family and friends prior to their employment with an organization (Eisenberger et al., 2004). This information could psychologically anchor employees POS prior to any direct experience with the organization. Future research examining social influence exerted by family members may provide additional insight regarding the formation of support perceptions within employees.

Limitations

Like most research, our study has some limitations. Given that our data collection in both studies was cross-sectional, as is the case in most network studies (Umphress et al. (2003); for exceptions, see Burkhardt (1994) and Gibbons (2004)), we are unable to determine causality (i.e., whether social networks drive POS or similarity in POS drives social network formation). Consistent with the axiom that “misery loves company,” it is conceivable that employees who feel that they are not supported by the

¹ We thank an anonymous reviewer for this helpful suggestion.

organization would commiserate and form advice and friendship ties. However, most network studies adopt the perspective that interaction leads to changes in attitudes, beliefs, or behaviors, not that shared opinions drive network formation.

The response rate and sample from Study 1 is also of concern. As Stork and Richards (1992) note, social networks analysis is used to estimate the social structure of a system, and missing data makes it more difficult to accurately portray what is occurring in that system. The effects of missing data in studies such as ours are unfortunately somewhat dramatic. If we had achieved a 100% response rate in Study 1, we would have had 2 descriptions of every relationship in each network for a total of 18,906 descriptions of 9453 relationships (138 employees \times 137 evaluations by each employee = 18906 descriptions). As it is, we had only 93 employees describe each of their 92 possible relationships with others (93 \times 92) for 8556 relationships. This means that we actually captured 45.2% of the relationships in the organization (8556/18,906). Fortunately, our response rate in Study 2 (84%) was higher. In addition, Study 1 drew on part-time student workers, so the generalizability of these findings to other settings is questionable. For these reasons, it is important that we replicated the results in Study 2 amongst employees working full-time.

Fourth, we used difference scores to construct matrices which were utilized as our dependent variable, similarity in POS. Edwards (1993) has argued that difference scores are problematic due to loss of reliability and regression to the mean. However, we use difference scores only as a dependent variable, not as both dependent and independent variables. Further, Baker and Hubert (1981) argue that as a robust non-parametric procedure, QAP is less prone to issues associated with using difference scores in more conventional estimation techniques. QAP regression is the most widely used analytical technique for testing social influence hypotheses related to perceptual, attitudinal, and behavioral similarity (Umphress et al., 2003). As a result, we are confident that our analysis presents a robust test of the relationship between social network variables and POS.

Conclusion

Organizational support theory (Eisenberger et al., 1986) has spurred a large body of research which demonstrates consistent results (Rhoades & Eisenberger, 2002; Riggall et al., 2009). However, we argue that its explanatory power is limited due to its focus on individual-level psychological explanations for employee interpretation of treatment offered by the organization. Given the complexity and ambiguity associated with today's organizations (Martinko & Gardner, 1987; Salancik & Pfeffer, 1978), we suggest information employees acquire from the social context will shape employees' POS. Across two studies in different settings, we found that employees had perceptions of organizational support which were similar to those of employees with whom they shared advice as well as to employees who occupied structurally equivalent positions in organizational friendship and advice networks in network studies conducted in two different settings. However, our hypothesis that employees would have dissimilar POS to those of employees with whom they maintained direct friendship ties was not supported. Notably, we found that these results were significant when demographic variables (gender, tenure, and race) were controlled in Study 1 and when demographic variables (gender, tenure, and race), department membership, reporting structure, supervisor satisfaction, and workflow ties were controlled in Study 2. Overall, our results show that direct relationships with coworkers, as well as employees' positions in friendship and advice networks, are significantly related to similarity in POS, even when relevant demographic, organizational, and supervisory variables are controlled.

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