

Perceived Support, Knowledge Tacitness, and Provider Knowledge Sharing

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**PERCEIVED SUPPORT, KNOWLEDGE TACITNESS,
AND PROVIDER KNOWLEDGE SHARING**

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Abstract

This study provides a direct test of social exchange theory on knowledge sharing from the perspective of the provider by examining the role of both perceived coworker support (PCS) and perceived organizational support (POS) on the extent to which employees share their knowledge with their coworkers. Also examined is the moderating role of knowledge tacitness. Results show PCS has a strong positive relationship with provider knowledge sharing but, contrary to expectation, POS does not have a significant relationship. Further, knowledge tacitness moderates the relationship between PCS and knowledge sharing such that the relationship between PCS and knowledge sharing is stronger for providers who perceive their knowledge as tacit. However, the difference in knowledge sharing between providers with knowledge high in tacitness versus low in tacitness is greatest at low levels of PCS and decreases as PCS increases. The implications of these findings to research and practice are discussed.

PERCEIVED SUPPORT, KNOWLEDGE TACITNESS, AND PROVIDER KNOWLEDGE SHARING

Knowledge sharing entails the provision or receipt of task-related information, know-how, or feedback regarding a product or procedure and can involve verbal communication about a task, direct or indirect exchange of tangible artifacts, the implicit coordination of expertise, and even the knowledge of who possesses what information (Bartol & Srivastava, 2002; Bock, Zmud, Kim, & Lee, 2005; Cummings, 2004; Hansen, 1999). As a prosocial (Gagné, 2009) and proactive behavior (Bal, Chiaburu, & Diaz, 2011), knowledge sharing represents a fundamental means by which employees can affect the experience of others and ultimately contribute to the performance of their organization (Argote & Ingram, 2000; Wang & Noe, 2010). Prosocial behaviors are positive social acts performed in order to enhance and maintain the well-being of others (Brief & Motowidlo, 1986) and proactive behaviors are self-directed and future-focused actions whereby employees aim to bring about change and ultimately contribute to group and organization effectiveness (Bal et al., 2011). These behaviors may be directed at individuals or at the organization and they may be part of employees' formal job responsibilities (i.e., in-role) or they may extend beyond their job requirements (i.e., extra-role; McNeely & Meglino, 1994).

While much of the research on knowledge sharing draws on social exchange (Wang & Noe, 2010), little research has directly examined the link between social exchange and knowledge sharing from the perspective of the person *providing* the knowledge (i.e., the knowledge provider; see Bartol, Liu, Zeng, & Wu, 2009 and Lu, Leung, & Koch, 2006 for exceptions). Social exchange theory emphasizes the norm of reciprocity (Gouldner, 1960) and posits that in social exchanges, when one party receives favorable treatment from another party it

creates unspecified obligations such that the other party is expected to reciprocate the favor. Organizational support theory (Eisenberger, Huntington, Hutchison, & Sowa, 1986) applies these norms of reciprocity to employee-employer relationships and suggests that employees' perceptions of support from the organization will lead them to reciprocate by engaging in behaviors valued by the organization (Eisenberger, Armeli, Rexwinkel, Lynch, & Rhoades, 2001). Extending this reasoning to coworkers, Ladd and Henry (2000) suggested employees who perceive their coworkers care about them and value their contribution (i.e., perceived coworker support) will also reciprocate by engaging in behaviors that benefit their coworkers. Surprisingly, research examining the link between coworker support and knowledge sharing has focused on support for knowledge sharing (Cabrera, Collins, & Salgado, 2006; Kulkarni, Ravindran, & Freeze, 2006-7; Lu et al., 2006) rather than support for the person providing the knowledge. In developing their target similarity framework, though, Lavelle, Rupp, and Brockner (2007) note that the best predictor of employees' behaviors targeted at a specific entity should be the quality of their social exchange relationship with that entity. Recent research (Chiaburu & Harrison, 2008; Chiaburu, Lorinkova, & Van Dyne, 2013) also highlight the importance of coworkers' behaviors on employees' attitudes and behaviors, including citizenship behaviors, noting that more studies examining the role of coworkers are needed. Our paper makes a contribution to the literature by responding to this call and examining the relationship between PCS and provider knowledge sharing with their coworkers.

The employee-coworker relationship exists however within the context of the employee-organization relationship (Cropanzano & Mitchell, 2005) and both theory and empirical research suggests employees' motivation for sharing their knowledge with their coworkers may also come from sources other than the immediate target beneficiary of their knowledge sharing behavior

(Lavelle et al., 2007; Maurer, Pierce, & Shore, 2002) such that employees' knowledge sharing may also be the result of their desire to reciprocate for the positive actions of their organization (Bartol et al., 2009; Eisenberger et al., 1986). However, research finds exchange relationships differentially affect employee behaviors and attitudes (Brandes, Dharwadkar, & Wheatley, 2004; Ng & Sorensen, 2008; Settoon, Bennett, & Liden, 1996), suggesting the relationship between the different sources of support and providers' knowledge sharing may vary. Thus, this study also tests the relationship between perceived organization support (POS) and providers' knowledge sharing and examines the relative importance of PCS and POS to providers' knowledge sharing, which represents the second contribution of this study.

In trying to understand the boundary conditions of these relationships, we also examine the role of knowledge tacitness, described as the degree to which knowledge is difficult to articulate or codify (e.g., to put into writing) (Reagans & McEvily, 2003; Zander & Kogut, 1995). According to social exchange theory, social exchange processes are influenced by the nature of the resources exchanged and the costs associated with transferring those resources (Blau, 1964; Cropanzano & Mitchell, 2005). Because tacit knowledge is generally difficult to articulate, it requires greater effort to share and, in many instances, can only be shared through personal observation, demonstration, or hands-on experience (Hamel, 1991; Reagans & McEvily, 2003). In other words, there is a time cost associated with sharing tacit knowledge, similar to the time cost associated with performing different citizenship behaviors (Bergeron, 2007), and this cost may influence the effect of PCS and POS on providers' motivation to share their knowledge. Thus, the third contribution of this study is to test for the moderating effect of providers' beliefs regarding the tacitness of their knowledge. Examining this contingency is important in that if the relationship between either PCS or POS and provider knowledge sharing

is found to differ for providers who perceive their knowledge as more versus less tacit, organizations may benefit from taking into account providers' beliefs regarding their knowledge when formulating interventions to motivate knowledge sharing.

In summary, this study extends the social exchange and knowledge sharing research in three ways. First, this study extends the application of social exchange by investigating knowledge sharing as a means for employees to reciprocate for PCS. Second, by comparing the relative contribution of PCS and POS to provider knowledge sharing, it adds to the small but growing empirical evidence on the relative contribution of different social exchange relationships to employee behaviors. Third, by examining the moderating role of knowledge tacitness, this study considers the effect that differences in employees' beliefs regarding the effort required to share their knowledge has on the relationship between their support perceptions and their engagement in knowledge sharing, thus highlighting the importance of taking into account employees' perception of their knowledge when examining the antecedents of their knowledge sharing. Finally, this study responds to the call for more research examining motives other than anticipated rewards or reciprocity and examining the role of individual knowledge beliefs (Wang & Noe, 2010).

PERCEIVED SUPPORT AND PROVIDER KNOWLEDGE SHARING

People's perceptions that they are cared for and valued by others who are willing to help them if assistance is needed (I. Sarason, Sarason, & Pierce, 1990) are related to physical and psychological outcomes including physical health, emotional well-being, and work performance (B. Sarason, Sarason, & Pierce, 1990). In organizational settings, two key sources of support are employees' coworkers and their organization. Coworkers represent an important part of an

organization's social climate and "provide the social fabric that is often crucial for meaning at work" (Hodson, 2001, p.18). Organizations also provide support through policies, practices, procedures, and actions that signal the organization values and cares about its employees (Eisenberger et al., 2001).

Perceived Coworker Support

Perceived coworker support (PCS) represents individual employees' beliefs regarding how much their coworkers as a collective group support and value their contribution (Ladd & Henry, 2000). When coworkers engage in behaviors that signal that they care about each other, employees develop positive perceptions of their coworkers and are likely to develop an overall feeling of obligation or desire to reciprocate for their coworkers' behaviors. Their coworkers' behaviors also suggest that social support and friendship is valued in their organization, which increases employees' engagement in behaviors that facilitate the development of strong relationships with their coworkers and strong emotional attachment or commitment enhances employees' motivation to provide their coworkers with assistance or support (Lin, 2010). Under these conditions the feeling of obligation or desire to reciprocate is also targeted toward coworkers as a collective group rather than toward individual coworkers and reciprocity is viewed as taking place between a minimum of three people where the recipient is not necessarily expected to reciprocate (Cole, Schaninger, & Harris, 2002; Ekeh, 1974). Instead providers trust that someone in the collective group will reciprocate at some point in the future. This trust increases providers' willingness to share knowledge with a wider range of potential recipients by relaxing their expectations of direct reciprocity. In contrast, when knowledge providers perceive their coworkers are less supportive, their motivation to share knowledge is based on specific dyadic relationships.

Scholars have suggested support from coworkers is an important aspect of employees' work experience and, as indicated earlier, research has demonstrated its positive relationship with a variety of employee outcomes (Chiaburu & Harrison, 2008). For example, in a sample of trainees attending professional development programs, Chiaburu (2010) finds coworker supportiveness to be an important factor that employees rely on for maintaining their skills and transferring those skills to their workplace. Lavelle, McMahan, and Harris (2009) also find nurses' perceptions of workgroup supportiveness is positively related to their performance of citizenship behaviors targeted at their workgroup and, in a sample of university employees, Kudisch, Fortunato, and Smith (2006) find coworker support to be positively related to employees' willingness to provide upward feedback. Finally, Lu and colleagues (2006) find an indirect relationship between managers' perceptions of coworker collegiality and their knowledge sharing. They find that those who perceive the quality of interpersonal relationships and the level of rapport in the workplace to be more favorable report lower levels of self-interest and higher levels of self-efficacy, thus leading them to engage in more knowledge sharing. In contrast, Bordia, Irmer, and Abusah (2006) find when employees are apprehensive about having their knowledge critiqued, as might happen when they do not perceive their coworkers as supportive or valuing their contribution, they report a lower intention to share knowledge. Based on these findings, we suggest providers' PCS influences their engagement in knowledge sharing with their coworkers and, therefore, propose the following:

Hypothesis 1: Providers' PCS will be positively related to their knowledge sharing.

Perceived Organizational Support.

Extending the norm of reciprocity to the relationship an employee maintains with his or her organization, Eisenberger and colleagues (e.g., Eisenberger et al., 1986; Eisenberger, Fasolo, & Davis-LaMastro, 1990) suggested employees also develop general attitudes concerning the extent to which they believe an organization values their contributions and cares about their well-being. Perceived organizational support (POS) reflects individual employees' perception of the actual state of their relationship with the organization of which they are members (Eisenberger et al., 1986). Scholars suggest that POS should enhance employees' feelings of affiliation and belonging (Rhoades & Eisenberger, 2002) and, based on the reciprocity norm, result in employees feeling obligated to care about the organization's performance and having the desire to help the organization reach its performance objectives (Eisenberger et al., 2001). One of the ways employees can contribute to their organization is by sharing their knowledge with others within the organization (Cabrera & Cabrera, 2002; Wang & Noe, 2010).

However, the empirical research linking POS with proactive and prosocial behaviors is mixed. For example, in a study of manufacturing employees Brandes et al. (2004) find POS is unrelated to employees' participation in improvement-oriented activities such as problem-solving committees and extra-role behaviors targeted at coworkers that include passing along information. Similarly, Lambert (2000) finds POS is negatively related to the extent employees offer suggestions for process or product improvement. By contrast, Choi (2006) finds POS has a significant positive relationship with interpersonal helping behaviors that include communicating suggestions for improvement and, in a study of information technology professionals, Bartol et al. (2009) find employees' POS has a significant positive relationship with employees' sharing their knowledge and expertise with others in their workgroup. Despite these mixed findings, for theoretical reasons we expect enhanced perceptions of organizational support should contribute

to employees' motivation to share their knowledge with their coworkers. The target similarity framework (Lavelle et al., 2007) suggests that while POS may not necessarily lead to employees sharing their knowledge with coworkers, due to the mismatch between the source of support and the target of their knowledge sharing, it may have spillover effects that contribute to employees' motivation to engage in behaviors targeted at their coworkers. Accordingly, the following hypothesis is proposed:

Hypothesis 2: Providers' POS will be positively related to their knowledge sharing.

While we have posited higher levels of perceived coworker and perceived organizational support are both positively associated with provider knowledge sharing, both theoretical and empirical research suggest PCS should have a more dominant influence on employees' knowledge sharing behaviors than POS. First, the target similarity framework suggests that employees make meaningful distinctions between social exchange relationship partners and the intended beneficiaries of their citizenship behaviors such that their social exchange relationship with a specific entity should best predict citizenship behaviors targeted at that entity (Lavelle et al., 2007). Drawing on this framework, in a multi-foci study examining the relationship between fairness perceptions, perceived support, and citizenship behavior, Lavelle et al. (2009) find that perceived workgroup support is a stronger predictor of citizenship behaviors targeted at the workgroup than POS while POS is a stronger predictor of citizenship behaviors targeted at the organization.

Field theory (Lewin, 1943) also suggests PCS should be a stronger predictor of providers' knowledge sharing than POS. Drawing on Lewin's (1943) argument that psychologically

proximal factors in an employee's work environment should have a more dominant influence on his or her behaviors than factors that are more distal, Brandes et al. (2004) posited and found employees' local exchange relationships (i.e., supervisors and coworkers) have a greater impact than their global relationships (i.e., top management and organization) on an index of proactive and prosocial behaviors that included passing along information and assisting coworkers with their job responsibilities. These authors reasoned local exchange relationships result in more specific interpersonal targets for reciprocation, whereas nonreciprocation risks negative consequences that can have an unfavorable impact on future performance. For example, a failure to reciprocate for past positive actions on the part of coworkers can contribute to one developing a negative reputation or weaken one's relationships with one's coworkers, thus limiting access to valued resources that could potentially benefit the employee's performance. In contrast, exchanges with one's organization are more distant in nature, making negative consequences less immediate. Based on these arguments, we suggest providers' perceptions of coworker support are more salient to their engagement in knowledge sharing than their perceptions of organizational support. Stated more formally:

Hypothesis 3: The positive relationship between PCS and provider knowledge sharing will be stronger than the positive relationship between POS and provider knowledge sharing.

THE MODERATING ROLE OF KNOWLEDGE TACITNESS

Knowledge held at the individual level has been described as having a variety of properties (Argote, McEvily, & Reagans, 2003) that influence the relative ease of transferring

knowledge and affect employees' knowledge sharing behaviors. As indicated earlier, one of these properties is its tacitness (Reagans & McEvily, 2003; Szulanski, 1996; Zander & Kogut, 1995). Tacit knowledge differs from explicit knowledge in that explicit knowledge can be easily codified and is generally widely available, whereas tacit knowledge resides within peoples' heads and is generally more difficult to articulate (Polanyi, 1966; Zander & Kogut, 1995), making it less available to others (McFadyen & Cannella, 2004; Uzzi & Lancaster, 2003) and harder for others to comprehend. These differences are in part because tacit knowledge is often related to the social interactions of employees in a specific work context (Augier, Shariq, & Vendelø, 2001) or is embodied in routines (Nelson & Winter, 1982). Sharing tacit knowledge therefore requires active support of the transfer process to ensure others understand the knowledge being shared. Thus, while sharing knowledge takes time in general, sharing tacit knowledge requires even more time and effort (Hansen, 1999), suggesting employees should be less motivated to share tacit knowledge than explicit or codified knowledge. Consistent with these arguments, research finds the extent to which knowledge is codified is negatively related to employees' belief it would be easy to share their knowledge (Reagans & McEvily, 2003) and to their knowledge sharing (Matzler, Renzl, Mooradian, von Krogh, & Mueller, 2011).

Extending this reasoning to the relationship between perceived support and knowledge sharing, knowledge tacitness should interact with PCS and POS such that PCS and POS should be more salient for providers with tacit knowledge than for providers with codified knowledge. As indicated earlier, providers who perceive their coworkers or organization as less supportive are less likely to feel as if the time and effort they exert sharing their knowledge will be worth the cost, thus decreasing their motivation to share their knowledge. This decreased motivation should have a greater negative impact on knowledge sharing for providers who believe their

knowledge is tacit because tacit knowledge is more difficult to share. Further, providers who perceive their coworkers as less supportive are not likely to have developed the trust or heuristics conducive to conveying complex knowledge (Uzzi, 1999). Consistent with this reasoning, Reagans and McEvily (2003) find that while strong ties facilitate the sharing of all types of knowledge, because tacit knowledge is more difficult to transfer than codified knowledge, it is less likely to be shared with weak ties than with strong ties. Similarly, Kankanhalli, Tan, and Wei (2005) find the effort required to codify and contribute knowledge to a knowledge repository is only significant for employees who do not trust their coworkers. Finally, King and Marks (2008) find that the positive relationship between POS and contribution to a knowledge management system is weaker for employees who perceive contributing to the system will require less effort such that POS is more salient when more effort is required. Based on these arguments, we suggest that PCS and POS should be more salient for those providers who perceive their knowledge as more tacit than for providers who perceive their knowledge as less tacit. More specifically, at low levels of PCS and POS providers with knowledge low in tacitness are likely to engage in more knowledge sharing than providers with knowledge high in tacitness, but the difference in knowledge sharing should decrease as PCS and POS increases. Stated more formally:

Hypothesis 4: Providers' knowledge tacitness moderates the relationship between their PCS and knowledge sharing such that the positive relationship between PCS and provider knowledge sharing will be stronger for providers with high levels of knowledge tacitness than for providers with low levels of knowledge tacitness.

Hypothesis 5: Providers' knowledge tacitness moderates the relationship between POS and knowledge sharing such that the positive relationship between POS and provider knowledge sharing will be stronger for providers with high levels of knowledge tacitness than for providers with low levels of knowledge tacitness.

METHOD

Sample and Respondents

The sample consisted of employees from a unit of a medium size consulting firm based in the mid-Atlantic area and a mental health services provider in the Rocky Mountain area of the United States. The consulting unit implements software applications for education institutions and the mental health organization provides a comprehensive range of services to individuals with mental health issues. Employees participating in the study were from a variety of managerial, professional, technical, and administrative jobs. While the importance of knowledge sharing varies across these jobs, both organizations view knowledge sharing as an important behavior for all employees and so requested all employees in their respective organizations be invited to participate in the study.

Data were collected via a web-based questionnaire where the URL link to the questionnaire was emailed to all employees in both organizations for a potential respondent sample of 149 employees from the consulting unit and 447 employees from the mental health organization. Respondents were ensured strict confidentiality. A total of 55 responses were received from the consulting unit and 152 responses were received from the mental health organization for response rates of 37% and 34%, respectively. In the consulting unit, respondents averaged over 5 years with the firm, their average age was just over 46 years, almost half were

female, more than 80% were Caucasian, over 90% were in professional or managerial positions, and over 75% had a minimum of a Bachelor's degree. In the mental health organization, respondents averaged between 5 and 6 years with the organization, their average age was just over 41 years, over two-thirds were female, more than 85% were Caucasian, over 60% were in professional or managerial positions, and over 75% had at least a Bachelor's degree.

A comparison of characteristics of the respondents and non-respondents for each organization was conducted to assess if non-response bias was a threat to the findings of this study. For both the consulting unit and the mental health organization the respondent and non-respondent groups were similar to each other with regard to length of employment, age, and gender. The consulting unit also showed no significant differences with regards to race but Chi-square tests showed significant differences for the mental health organization in all racial categories ($\chi^2 = 24.62$, $df = 3$, significance = .00). Caucasians were significantly overrepresented in the respondent population relative to the non-respondent population and the non-Caucasian groups were underrepresented. However, both samples were predominantly Caucasian. Thus, caution should be used in interpreting our results for minority populations.

Results of *t*-tests comparing the characteristics of the respondents from the two organizations and the ANOVA tests comparing the mean differences for the variables of interest between the respondents from the consulting unit and the mental health organization showed the two respondent populations differed in terms of job level, gender, and knowledge sharing behavior. However, the gender differences may be due to the nature of the services provided by each organization and the differences in job level and knowledge sharing may be due to differences in how the work is organized in the two firms. The consulting firm is project-based and employees are typically assigned to project teams, whereas the employees in the mental

health organization work more independently and consult each other in the course of their work. However, because all employees in both organizations were invited to participate in the study and participation was voluntary, the respondents from the two organizations were combined to form a single sample for the analyses and a dummy variable for organization was included in the regressions to control for other potential differences between the two organizations.

Measures

To increase the construct validity and the external validity of the study, when possible measures were utilized that had been previously used in empirical literature (e.g., Eisenberger et al., 2001; Ladd & Henry, 2000; Reagans & McEvily, 2003). The knowledge sharing measure was developed for this study based on measures from the communications literature (Allen & Cohen, 1969; Porter & Roberts, 1976; Tushman & Katz, 1980; Wickesberg, 1968). Prior to administration of the survey, the measure was reviewed by academic subject matter experts familiar with the content area. The complete survey was pilot tested with a group of employees from each organization followed with an item by item debrief with two pilot study participants from each organization. All measures were also subjected to a factor analysis to ensure construct validity of the measures. The scales for all the measures ranged from (1) strongly disagree to (7) strongly agree.

Provider knowledge sharing. The extent to which employees perceive they share their knowledge with others in their organization was measured with a five-item scale intended to capture employees' generalized perception of their overall engagement in knowledge sharing with their coworkers. Items asked about the frequency with which employees take advantage of opportunities to share their knowledge and how they share their knowledge and, thus, differed from those that focus on the sharing of specific types of knowledge (Cummings, 2004).

Frequency measures of information sharing have been used in studies conducted by Allen and Cohen (1969), Tushman and Katz (1980), and Wickesberg (1968) on which the measures for this study were based. Items included the following, “I often share knowledge with my coworkers verbally;” “I provide my coworkers with a lot of my knowledge;” “I often share my knowledge with my coworkers by showing them what to do;” “When asked, I share my knowledge with my coworkers;” and “I frequently volunteer my knowledge to my coworkers.” The five items were averaged for an overall score ($\alpha = .85$).

Perceived coworker support (PCS). The extent to which employees perceived their coworkers to be supportive was measured using the nine-item scale developed by Ladd and Henry (2000). An example item is “My coworkers are willing to offer assistance to help me perform my job to the best of my ability.” The nine items were averaged for an overall score ($\alpha = .95$).

Perceived organizational support (POS). The extent to which employees perceived their organization to be supportive was measured using the nine items from Eisenberger and colleagues (2001). An example item is “My organization’s management shows very little concern for me” (reverse scored). These nine items represent a shortened version of the original POS scale (Eisenberger et al., 1986) and were averaged for an overall score ($\alpha = .94$).

Knowledge tacitness. The extent to which employees believed their knowledge was difficult to articulate or codify was measured using the five item scale developed by Reagans and McEvily (2003) and adapted from Zander and Kogut (1995). An example item is “Standardized procedures for applying my expertise to address applied problems could be easily developed.” The five items were averaged for an overall score ($\alpha = .81$).

Control variables. Following Cross and Cummings (2004), tenure, job level, and gender were included as controls. For *tenure*, respondents indicated how long, in years, they had been with their organization. Respondents indicated their current *job level* by selecting one of the following: Vice President, Director, Manager, Professional, Technical, Administrative, or Other and their selection was coded 1 for Vice President, 2 for Director, 3 for Manager, 4 for Professional, 5 for Technical, 6 for Administrative, and 7 for Other. For the purpose of analysis, the job level variable was treated as being on an ordinal scale since it ranged from high to low. For *gender* respondents indicated whether they were male or female, which was then coded “0” for male and “1” for female. The *organization* variable was coded “0” for the mental health organization and “1” for the unit of the consulting firm.

RESULTS

Table 1 presents the means, standard deviations, and correlations among the study variables. The two independent variables, PCS and POS, are correlated ($r = .23, p < .01$) and PCS is correlated to knowledge sharing ($r = .33, p < .01$) but POS is not ($r = .08, n.s.$). Furthermore, the moderator—knowledge tacitness—does have a small negative correlation with knowledge sharing ($r = -.20, p < .01$) and is also correlated with POS ($r = -.24, p < .01$), but not to PCS ($r = -.09, n.s.$). One interesting pattern, albeit weak, is the negative relation between job level and POS ($r = -.15, p < .05$), knowledge tacitness ($r = -.15, p < .05$) and knowledge sharing ($r = -.15, p < .05$). These relationships are elaborated upon in the discussion section.

Insert Table 1 about here

Prior to running the regression analysis, some analyses to rule out common method variance and test the stability of the measurement model were conducted. Common method variance (CMV) is a concern because this study relied on self-reported data. Providers are often better able to evaluate their overall level of knowledge sharing behavior because, while others might be aware of when a provider engages in knowledge sharing, only the provider is aware of when he or she does not engage in knowledge sharing. However, despite the argument that percept-percept inflation is more an exception than a rule (Crampton & Wagner, 1994), because the study data were self-reported and collected using a survey, there is some risk of common method bias (Podsakoff & Organ, 1986). To minimize this risk, recommendations by Podsakoff, MacKenzie, Lee, and Podsakoff (2003) were followed that aimed at reducing item ambiguity and creating the appearance that measures were not related to each other as well as decreasing the saliency, availability, and relevance of prior responses. Additionally, respondents were assured of complete confidentiality and encouraged to answer the questions as honestly as possible to help reduce evaluation apprehension and discourage socially desirable responses.

The Harman's single factor test was conducted to evaluate the extent of the common method problem (Harman, 1967; Podsakoff & Organ, 1986). An unrotated factor analysis of the three independent variables and the dependent variable indicated the presence of 4 factors. Total variance explained was 67.9%, suggesting common method bias should not influence our results. Since a single factor did not emerge and the first factor only accounted for 30.2% of the 67.9% explained variance, the results of Harman's single factor test indicate that the sample lacked a significant presence of CMV. Second, following the procedures outlined by Podsakoff and colleagues (2003) two confirmatory factor analyses were conducted, one with only the four latent variables and the other with the latent variables as well as a common method factor to capture

the variance associated with the common method (Carlson & Kacmar, 2000). Results indicated there was very little difference (approximately 0.2%) in explained variance between the two measurement models. It was significantly lower than the threshold of 25% (Williams, Cote, & Buckley, 1989), thereby alleviating concerns about common method bias.

Hypothesis Testing

The hypotheses were tested using ordinary least squares (OLS) linear regression and all variables were standardized prior to analyses. The hierarchical regression analyses in which knowledge sharing was the dependent variable was performed in the following sequence: (1) the control variables, (2) the two independent variables, (3) the moderating variable, and (4) the interactions. In the first step the following four control variables were entered: tenure in the organization, job level, gender, and organization. Among the controls, only the organization variable was significantly related to knowledge sharing which is consistent with the results of the *t*-tests comparing the characteristics of the respondents from the two organizations and the ANOVA comparing the mean differences of their responses.

In the second step the independent variables of perceived coworker support (PCS) and perceived organizational support (POS) were entered to test Hypotheses 1 and 2, which predicted a positive relationship between these variables and provider knowledge sharing. As expected and consistent with correlational results, PCS showed a significant positive relationship with provider knowledge sharing ($\beta = .33, p < .001$), providing support for Hypothesis 1. In contrast, POS was not significantly related to provider knowledge sharing ($\beta = -.01$), showing a lack of support for Hypothesis 2. While contrary to expectations, this finding is also consistent with correlational results. Providers engage in significantly more knowledge sharing with their coworkers when

they perceive greater coworker support but greater perceived organizational support is not associated with significantly greater levels of knowledge sharing.

Hypothesis 3 predicted that the relation between PCS and provider knowledge sharing would be stronger than that between POS and knowledge sharing. The finding that the relation between PCS and knowledge sharing was significant ($\beta = .33, p < .001$) but the relation between POS and knowledge sharing was non-significant ($\beta = -.01$) lends support to Hypothesis 3.

In testing Hypotheses 4 and 5 we first tested the overall effect of the two-way interactions by testing whether the R^2 change from the model with the first-order effects to the model including both two-way interactions was significant. Results showed the overall model to be significant ($F = 6.19, p < .001$) with the change in R^2 also being significant ($\Delta R^2 = .04, p < .01$). The interactions were then investigated separately and results were consistent with the full regression model. Findings indicated that although knowledge tacitness moderated the relationship between PCS and provider knowledge sharing, in support of Hypothesis 4 ($\beta = .20, p < .01$), there was no support for Hypothesis 5 ($\beta = .04$). Table 2 shows the results of the hierarchical regression analysis and Figure 1 represents a graph of the significant interaction. We created the figure by following the procedure suggested by Aiken and West (1991) and by Cohen and Cohen (1983). Specifically, we used the unstandardized regression coefficients and constant from the final regression equation to plot the relation between PCS and knowledge sharing at high (one standard deviation above the mean) and low (one standard deviation below the mean) levels of knowledge tacitness. As shown in the figure, the positive relationship between PCS and knowledge sharing was stronger for providers who perceived their knowledge as tacit than for providers who perceived their knowledge as codifiable. Results of a slope analysis indicate that, while PCS was significantly related to provider knowledge sharing at both high and low levels of

knowledge tacitness, the relationship was stronger at high knowledge tacitness ($\beta = .48, p < .001$) than at low knowledge tacitness ($\beta = .08, p < .01$) and a slope coefficient difference *t*-test indicated that the two slopes were also significantly different from each other ($t = 4.96, p < .001$). Thus, Hypothesis 4 was supported and Hypothesis 5 was not supported.

Insert Table 2 and Figure 1 about here

DISCUSSION

Knowledge sharing is a fundamental means by which employees can positively affect the experience of their coworkers as well as contribute to the effectiveness of their organization (Argote & Ingram, 2000; Wang & Noe, 2010). As such, it represents a key process by which employees can reciprocate for past positive actions on the part of their coworkers and organization (Blau, 1964; Gouldner, 1960). In recognition of this assertion, research has examined the relationship between POS and knowledge sharing (Bartol et al., 2009). However, while research has examined the effect of employees' perception that their coworkers are supportive of knowledge sharing (Cabrera et al., 2006; Kulkani et al., 2006-7; Lu et al., 2006) past research has not directly examined the link between employees' perception that they are supported by their coworkers and employees' knowledge sharing or the relative importance of perceived coworker and perceived organization support.

This study fills these gaps by proposing and testing a support-based model of knowledge sharing from the perspective of the provider, such that PCS and POS are each theorized to have a positive relationship with providers' knowledge sharing, but that the relationship should be

stronger for PCS. In finding that PCS is positively associated with provider engagement in knowledge sharing, this study adds to the growing body of research demonstrating the importance of coworkers to employees' attitudes and behaviors and responds to the call for more research on the role of coworkers. Further, the finding that PCS has a stronger influence on providers' knowledge sharing with their coworkers is consistent with the target similarity framework (Lavelle et al., 2007), suggesting that taking a multi-foci approach to knowledge sharing offers the potential to provide a more complete assessment of how employees' social exchange relationships influence their knowledge sharing behaviors.

In contrast to Bartol et al. (2009), though, this study did not find a significant relationship between POS and provider knowledge sharing. This finding is somewhat interesting in that while the research on the effects of POS have been mixed, research also suggests most individuals view their knowledge as belonging to their organization (Jarvenpaa & Staples, 2001). One possible explanation is that POS does not necessarily produce the obligation to reciprocate. Findings from a study by Burnett, Chiaburu, Li, and Shapiro (2013) suggest that there is a tipping point after which POS no longer creates the obligation to reciprocate but instead represents a threat to employees' self-esteem and sense of control resulting in a negative effect on employees' behavior. Lambert (2000) also suggested the positive feelings associated with high POS might cause employees to be satisfied with their working conditions and become complacent over time, leading them to feel less obligated to reciprocate. Consistent with this idea, Gibney, Zagenczyk, and Masters (2009) did not find a significant relationship between POS and employees' desire to engage in voice behaviors, such as sharing their knowledge and ideas, but did find a positive relationship between employees' perception that their organization is obstructive and their desire to engage in voice behaviors. Another possibility is that while social

exchange relationships may have spillover effects on behaviors targeted at other social exchange entities (Lavelle et al., 2007), these spillover effects may depend on other factors. For example, the relationship between POS and knowledge sharing may depend on the extent to which employees perceive the organization as a beneficiary of their knowledge sharing. Alternatively, their reciprocity toward the organization may be manifested in other ways, such as greater organizational commitment, rather than it being reflected in knowledge sharing with coworkers.

Finally, our finding that the positive relationship between PCS and knowledge sharing is more significant for tacit knowledge than for codifiable knowledge points to an important boundary condition with respect to PCS and knowledge sharing. Specifically, providers with tacit knowledge engage in significantly less knowledge sharing than providers with codifiable knowledge at low levels of PCS, and this difference decreases as PCS increases. This finding highlights the importance of examining potential moderators when examining the effects of the work environment in that doing so may highlight differences in how unfavorable work environments impact behavior. For example, future research may want to examine how differences in the perceived time cost associated with performing various proactive or prosocial behaviors affects employees' willingness to perform those behaviors when they do not perceive their coworkers or organization to be supportive.

Managerial Implications

The results of this study have important practical implications for how knowledge sharing is managed in organizations. If managers and organizations are to encourage employees to share their knowledge, it is important for managers to understand the reasons that motivate employees to do so. Employees who do not perceive their coworkers as supportive are not only less likely concerned with contributing to their coworkers' well-being but also not likely to trust that

sharing their knowledge will be worth the effort, especially sharing tacit knowledge. It is therefore important that managers communicate the importance of knowledge sharing and create opportunities for employees to interact so that they can develop the strong relationships and social networks that facilitate the sharing of all types of knowledge. Organizations can also help reinforce the importance of being supportive and sharing knowledge by hiring employees with personal characteristics associated with more supportive behaviors and knowledge sharing. For example, research finds the personality traits of agreeableness, conscientiousness, and openness to experience are each associated with greater levels of knowledge sharing (Matzler, Renzl, Müller, Herting, & Mooradian, 2008). Organizations can also include cooperative behaviors, such as knowledge sharing and interpersonal helping, as criteria in performance management and reward systems, thus reinforcing the importance of these behaviors. In so doing, managers and organizations can create an organizational environment where employees trust each other and want to engage in behaviors, such as knowledge sharing, that can contribute to both their coworkers' and their organization's well-being.

Limitations and Future Research

This study is not without limitations. First, as discussed previously, the self-reported method creates common method bias concerns, though we had few alternatives to discern the extent to which knowledge providers were engaged in knowledge sharing. Because most knowledge exists in employees' heads, an information asymmetry exists (Eisenhardt, 1989), such that it may not be possible for others to objectively assess the extent to which employees share their knowledge. Our efforts to reduce the risk of common method bias and the results from both the Harman's single factor test and the confirmatory factor analysis suggest that common method bias is not a significant concern for this study. Future research may want to survey both

employees and their coworkers or supervisors and examine the extent to which employees' perception of their knowledge sharing is consistent with coworkers' and supervisors' perceptions.

Second, because this study was cross-sectional, it precludes us from unequivocally determining the direction of causality. It is possible employees who are more engaged in knowledge sharing believe their coworkers must be supportive. We based our hypotheses, however, on theories grounded in social exchange (Eisenberger et al., 1986; Lavelle et al., 2007) and on empirical research (Chiaburu & Harrison, 2008; Lavelle et al., 2009). Longitudinal designs with a time lag between perceived support measures and assessment of the outcomes (e.g., Ng, Feldman, & Lam, 2010) could offer more credibility to the proposed relationships.

Third, while we jointly examined the effects of PCS and POS, we were unable to assess perceived supervisor support. Supervisors are an important source of support that can influence employee attitudes and behaviors and empirical research finds employees differentiate supervisors and members of their workgroup as unique individual beneficiaries of their citizenship behavior (Lavelle et al., 2009). However, supervisors can also be viewed as representatives of the organization, so it is unclear whether perceived supervisor support would generate results more consistent with PCS or with POS. Including supervisor support as well as differentiating knowledge sharing with coworkers from knowledge sharing with supervisors, as recommended by the target similarity model (Lavelle et al., 2007), will improve our ability to understand and predict employees' knowledge sharing behaviors.

Fourth, while our results provide support for theorizing, this study did not attempt to test the underlying psychological or social mechanisms described in the framework. For example, there were no measures to capture providers' felt obligation to reciprocate for the supportiveness

of their coworkers or their organization and, as indicated earlier, perceived support may not necessarily produce the obligation to reciprocate. Research does find, though, that when an organizational environment is perceived as favorable, it may create subjective norms for sharing knowledge (Brock et al., 2005). Therefore another interesting avenue for future research is to empirically capture and evaluate the extent to which employees feel obligated to reciprocate and thereby get a better understanding of the mechanisms associated with social exchange.

Because this study focused on the frequency with which employees engage in knowledge sharing behaviors more generally, the knowledge sharing measure used did not capture other important aspects of knowledge sharing, such as the quantity or quality of the knowledge shared or the types of knowledge shared. To develop a more thorough understanding of employees' knowledge sharing behavior, research is needed that uses more fine-grained knowledge sharing measures such as recent measures that capture the types of knowledge shared, the extent to which the knowledge shared is solicited or unsolicited, and how widely the knowledge is shared (Matzler et al., 2008; Matzler et al., 2011).

Some of our correlations also suggest interesting areas for future research. While our analyses suggest multicollinearity was not an issue in our data, the correlation between POS and knowledge tacitness precludes an examination of all four possible contrasts in the interaction between POS and knowledge tacitness (Baron & Kenny, 1986). Further, the overall pattern of correlations between POS, knowledge tacitness, and job level suggests there may be systematic differences in the extent to which employees believe their knowledge is tacit, depending on the nature of their job, and that job characteristics may influence employees' beliefs about the extent to which their organization values their contributions. For example, employees in jobs that are more complex or are in higher hierarchical levels in the organization may be more likely to

possess knowledge that is tacit or causally ambiguous (Szulanski, 1996) and may expect their organization to be more supportive, so for these employees POS may not produce the obligation to reciprocate. Understanding how job characteristics influence employees' knowledge perceptions, their relationship with their organization, and their knowledge sharing are important areas for future research. Lastly, because the sample was predominantly Caucasian and came from a limited number of organizations, caution should be exercised before generalizing our results to minority groups or to other organizations.

Conclusion

In conclusion, the results here add to the growing literature examining knowledge sharing from the provider perspective and contribute to our knowledge of when employees are more likely to exert the effort necessary to communicate and share their knowledge. We hope the results of our study encourage other researchers to consider how individual-level perceptions regarding knowledge may interact with other individual and contextual factors to affect knowledge sharing. In so doing, we can continue to expand our understanding of the conditions that impact employees' willingness to share their knowledge as well as provide managers with guidance on how to encourage knowledge sharing among all employees.

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Table 1**Means, Standard Deviations, and Correlations**

Variables	M	SD	1	2	3	4	5	6	7
1. Organization	.27	.45							
2. Organization Tenure	5.45	4.90	-.02						
3. Job Level	4.31	1.39	-.25**	-.22**					
4. Gender	.64	.48	-.23**	-.11	.06				
5. Perceived Organization Support	4.35	1.46	-.01	.09	-.15*	-.03			
6. Perceived Coworker Support	5.55	1.08	-.05	-.10	-.02	.07	.23**		
7. Knowledge Tacitness	4.59	1.22	.09	.12	-.15*	-.12	-.24**	-.09	
8. Knowledge Sharing	5.59	.99	.18**	-.01	-.15*	-.04	.08	.33**	-.20**

Note: Organization was coded 0 = mental health organization, 1 = consulting unit; Gender was coded 0 = men, 1 = women; n = 202 to 207

* $p < .05$, two-tailed, ** $p < .01$, two-tailed.

Table 2

Hierarchical Regression Results Predicting Provider Knowledge Sharing

Model and Hypothesis Tested	Model 1	Model 2	Model 3	Model 4
<i>Control variables</i>				
Organization	.17*	.18*	.16*	.18*
Tenure	.00	.03	-.00	.02
Job Level	-.09	-.12	-.13	-.12
Gender	-.01	-.04	-.04	-.04
<i>Independent variables</i>				
Perceived Coworker Support (PCS)	.33***	.33***	-.28***	.33***
Perceived Organizational Support (POS)	-.01	-.08	-.07	-.08
<i>Moderator</i>				
Knowledge Tacitness		-.23**	-0.25***	-.23**
<i>Interaction terms</i>				
PCS X Knowledge Tacitness			.20**	
POS X Knowledge Tacitness				.04
F	5.5***	6.49***	6.98***	5.69***
R ²	.14	.19	.23	.23
ΔR ² (associated with interaction)			.04**	.00

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

Figure 1

Interaction of PCS and Knowledge Tacitness

