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## The need for status as a hidden motive of knowledge-sharing behavior: An application of costly signaling theory

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### ABSTRACT

This study draws on costly signaling theory (CST) and explores the hidden motive of proactive knowledge sharing. We theorize that the need for status drives employees to generously share their tacit knowledge and special expertise to obtain social recognition and status as conferred by supervisory appraisal. We tested our hypotheses based on the moderated mediation model using a sample of 146 supervisor–subordinate dyads that were collected from South Korean organizations. The present analysis supports the proposed theoretical framework based on CST, thereby providing new insights into the need for status as an unexplored hidden motive of proactive knowledge sharing and the roles of job design factors as contextual contingencies. This study offers theoretical and practical implications related to knowledge management, employee motivation, and job design.

Knowledge is a critical asset for contemporary organizations to achieve sustainable competitive advantage (Kogut & Zander, 1992; Wang & Noe, 2010). Recognizing knowledge as a fundamental resource for performance and innovation, organizations encourage employees to share knowledge via various interventions, such as knowledge management systems, intranet, and communities of practice (Gong, Kim, Zhu, & Lee, 2013; Nonaka & Takeuchi, 1995). Contrary to the benefits and necessity of knowledge sharing from the collective perspective, knowledge sharing often presents a motivational dilemma to individuals for several reasons (A. Cabrera, Collins, & Salgado, 2006). First, knowledge sharing can reduce the value of employees to an organization and damage their position because their respective expertise and special know-how constitute the source of their current status and employment (Renzl, 2008). Second, knowledge sharing poses inherent risks because reciprocity between the giver and the recipient cannot be guaranteed, although repeated exchanges that are unlike the prisoner’s dilemma occur within organizations (Szulanski, 1996). Third, knowledge sharing triggers the “sucker effect” and the tendency to “free ride,” because people can exploit knowledge that is shared by others without reciprocating such benefits by sharing their own knowledge (E. F. Cabrera & Cabrera, 2002).

To explain and promote the knowledge-sharing behavior of individuals, existing studies focused on extrinsic incentives, such as monetary rewards and honorable titles that restore the loss in knowledge resources, or social motives, such as the commitment and loyalty to a group that increases a person’s willingness to contribute to the collective interest at the expense of his or her own cost (Bartol & Srivastava, 2002; A. Cabrera et al., 2006). These approaches are informative and suggest practical solutions to organizations; however, they assume that people share knowledge reluctantly and grudgingly as a reaction to external stimuli, such as incentives, or that people serve the collective by sacrificing their own interests. Thus, existing studies overlooked the possibility that

people readily and voluntarily share valuable knowledge beyond extrinsically driven or self-sacrificial behavior. Therefore, scholars called for the exploration of the proactive aspects of knowledge sharing (Wang & Noe, 2010; Wasko & Faraj, 2005).

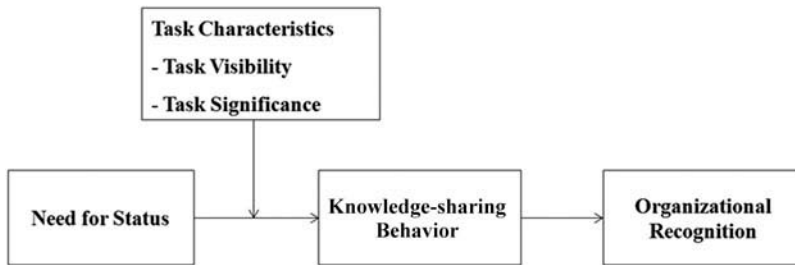
Focusing on the proactive and self-initiated form of knowledge sharing, we explore the underlying motivational processes that urge people to strategically commit to incurring resource loss through knowledge sharing to attain personal benefits in addition to reciprocated knowledge from the recipients and financial incentives from organizations. To this end, we draw on costly signaling theory (CST) (Zahavi, 1995), which was used to explain the hidden motive of generous resource sharing in diverse disciplines such as anthropology, biology, and psychology (Gintis, Smith, & Bowles, 2001; Hardy & Van Vugt, 2006; Hawkes & Bliege Bird, 2002; McAndrew, 2002). CST posits that resource-sharing behavior represents a mode of signaling tantamount to “showing off” qualities, such as the peacock’s tail and conspicuous consumption (Connelly, Certo, Ireland, & Reutzel, 2011; Zahavi, 1995). By engaging in costly signaling and spending excessive amounts of time, energy, and money, a person differentiates him- or herself from others and publicly advertises desirable underlying qualities that are costly to obtain and difficult to fake, such as resource control, genetic endowment, vigor, and intelligence (Gintis et al., 2001).

CST provides insightful directions to explain the proactive and generous sharing of valuable knowledge in organizational settings. According to CST, people who contribute to the collective with considerable costs rather than safeguarding self-interests indirectly recoup the cost of the high-cost display in the long term in the form of increased social prestige or recognition within the community (Barclay, 2010; Smith & Bliege Bird, 2000). We apply this concept to the phenomenon of knowledge sharing and propose that knowledge sharing is a form of costly signal, which is a means to achieve prestige at the workplace. Knowledge, especially tacit knowledge, is the exclusive and differentiated asset that results from individuals’ investment of substantial time and effort (E. F. Cabrera & Cabrera, 2002; McIver, Lengnick-Hall, Lengnick-Hall, & Ramachandran, 2013; Renzl, 2008). Thus, sharing valuable knowledge is a form of costly signaling to expose the hidden superior quality of a person, thereby possibly leading to high status (Connelly et al., 2011; Gintis et al., 2001).

From the CST perspective on knowledge sharing, we propose that individuals with a high need for status are likely to proactively share knowledge because this behavior increases their social prestige and recognition. The need for status refers to a person’s “motive to attain respect or admiration by others” (Dubois, Rucker, & Galinsky, 2012, p. 1048). This desire to acquire status is considered one of the principal drivers of human behavior (Berger, Rosenholtz, & Zelditch, 1980). The present study advances a novel perspective by introducing CST and identifying the need for status as a motivational driver of knowledge sharing, thereby eliciting social recognition.

The need for status is a meaningful personal disposition that increases proactive knowledge sharing; however, behavior in organizations cannot be fully explained without properly considering the performance context (Johns, 2006; Levy & Williams, 2004; Rubin, Dierdorff, & Bachrach, 2013). We identify the work context that activates the trait–behavior relationship (cf. trait activation theory; Tett & Burnett, 2003) by isolating task characteristics as a critical contingency of the relationship between the need for status and knowledge sharing (Srivastava, Bartol, & Locke, 2006). CST indicates that costly signaling behavior is exhibited when an individual perceives high “broadcast effectiveness,” such that the intended returns are maximized (Gintis et al., 2001; Hardy & Van Vugt, 2006). Broadcast effectiveness is high when the behavior is observable and *known* to others and when it becomes important and *meaningful* to affect the group and others (Barclay, 2010; Zahavi, 1995). Thus, employees with a high need for status likely display knowledge sharing behavior when their tasks are visible to key power holders, such as supervisors (Kidwell & Bennett, 1993; Liden, Wayne, Jaworski, & Benett, 2004), and when their tasks are significant to the group (Grant, 2007; Hackman & Oldham, 1975). Thus, we identify task visibility and significance as critical boundary conditions that activate the relationship between the need for status and knowledge sharing.

In summary, we introduce CST as an alternative motivational pathway toward knowledge sharing to reveal the underexplored and proactive aspects of knowledge sharing beyond the prevailing



**Figure 1.** Conceptual framework.

extrinsic or self-sacrificial view of such behavior. We focus on the organizational recognition of focal employees that is evaluated by a supervisor as the outcome of knowledge sharing because a supervisor's recognition and evaluation constitute a direct indicator of social status by encompassing social recognition, financial incentives, and promotion to high positions (Yukl, 2012). We also theorize how task visibility and significance moderate the effects of the need for status on knowledge sharing and the in-group prestige of the focal employee as perceived by supervisors. The present study suggests how firms can “nudge” employees to proactively share knowledge by stimulating their hidden motives and creating appropriate performance contexts. The overall theoretical framework is illustrated in Figure 1 and further elaborated next. We test the theoretical propositions using multisource data that consist of 146 supervisor–subordinate dyads collected from organizations in South Korea.

## Theoretical background and hypotheses

### *Costly signaling theory*

Researchers in various fields have been interested in the reason why people share their own valuable resources with others, thereby resulting in various accounts such as kin selection (Hamilton, 1964) and reciprocal exchange (Trivers, 1971). In response to the limited scope of reciprocity and the inherent risks of returns, CST is proposed as an alternative explanation to identify resource sharing as a form of signaling by which individuals flaunt their hidden qualities (Gintis et al., 2001; Zahavi, 1995). Therefore, the seemingly self-sacrificial behavior may actually emanate from the need to “stand out” in social hierarchies by spending excessive resources in unselfish and public activities. In exchange for such sacrificial behavior and resultant resource losses, individuals earn the long-term benefit of an increased likelihood that they will be chosen as competent coalition partners or potentially superior mates (Smith & Bliege Bird, 2000). Individuals may achieve a reputation of being generous and capable, a reputation that in turn makes them highly attractive as future exchange partners because of their unselfish contribution to the community (Gintis et al., 2001; Zahavi, 1995).

In addition to the cases of the peacock's tail or songbirds' group breeding in the biological field (Grafen, 1990), numerous examples of excessive public display of altruism and generosity are also exhibited by various cultures, such as throwing a housewarming party or food sharing (Hawkes & Bliege Bird, 2002; Smith & Bliege Bird, 2000). Literature in social psychology shows that people tend to behave altruistically and cooperatively when their behaviors are highly noticeable to others and are closely connected with their social reputation (Hardy & Van Vugt, 2006; McAndrew, 2002). Mathematical models indicated that sacrificing for others forms an evolutionarily robust strategy in light of signaling to promote one's long-term survival (Gintis et al., 2001). In the management literature, scholars have investigated the role of various signals in the context of the labor market, corporate governance, and entrepreneurship (Connelly et al., 2011). Spence (1973) identified job

candidates' investment in a long and rigorous higher education as a costly signal to differentiate them from other candidates. The recent upsurge of interest in signaling theory is encouraging from the interdisciplinary view; however, many research areas, particularly at the microlevel of organizational behavior (e.g., interpersonal knowledge sharing), remain underexplored (Connelly et al., 2011).

In the current study, we apply the principle of CST, which is a specific form of signaling theory, to proactive knowledge sharing in group and organizational settings. Similar to the current focus on proactive contribution to the community that is driven by self-interest, extant studies identify self-enhancement motives (Pfeffer & Fong, 2005; Yun, Takeuchi, & Liu, 2007), which result in impression management tactics (Bolino, 1999; Grant & Mayer, 2009). Self-enhancement motive is "an individual employee's sensitivity to other people's perception of him or her and the employee's level of motivation to adapt his or her behavior to project a good self-image to others" (Yun et al., 2007, p. 749). Impression management motive for self-enhancement may engender acquiescent and responsive behaviors to fit in and fulfill others' expectations and group norms (Bolino, Varela, Bande, & Turnley, 2006; Grant & Mayer, 2009; Wayne & Liden, 1995). However, in accordance with the core idea of CST, the need for status leads to proactive or even aggressive giving of highly valuable resources, which is sufficiently costly to send a strong signal (Gintis et al., 2001; Smith & Bliege Bird, 2000; Zahavi, 1995). Thus, the underlying motive of status as suggested in CST appears more appropriate or preferable to self-enhancement or impression management motives in explaining the proactive and generous sharing of highly valuable resources (George, Dahlander, Granffin, & Sim, 2016).

### ***The need for status and knowledge-sharing behavior***

Knowledge is a source of sustainable advantage for both individuals and organizations because it is unique, causally ambiguous, and difficult to substitute (Kogut & Zander, 1992; Nonaka & Takeuchi, 1995). Thus, intangible resources that are represented by knowledge, particularly tacit knowledge or an agglomeration of the accumulated know-how and expertise of individuals, constitute the key factor to achieve a secure status in the workplace (E. F. Cabrera & Cabrera, 2002). In their taxonomy of knowledge, McIver et al. (2013) labeled this type of knowledge as "talent and intuitive know-how" because it is developed via idiosyncratic experiences, thereby making it primarily tacit and difficult to learn. This knowledge is an exclusive and differentiated asset that results from a considerable investment of time and effort for a considerable period (Renzl, 2008). Thus, sharing this special and valuable knowledge is a behavior that is costly enough to expose the hidden superior quality of a person (Connelly et al., 2011; Gintis et al., 2001; Spence, 1973). Moreover, this sharing behavior also contributes to the collective by expanding the knowledge asset available to the group (Gong et al., 2013; Nonaka & Takeuchi, 1995). Thus, tacit knowledge sharing can be regarded as a form of costly signaling to differentiate and achieve status. As Zahavi (1995) stated, "prestige may be gained by investing in wasteful characters [behaviors] as well as by investing in altruistic activities" (p. 2).

CST suggests that employees can share personal resources, such as tacit knowledge, willingly and generously because such behavior increases their social prestige and recognition by advertising their hidden qualities and convincing others of their superiority (Gintis et al., 2001; Zahavi, 1995). Considering the assertions of CST, the need for status can be the most powerful and fundamental motive to elicit socially desirable behavior, such as knowledge sharing (Berger et al., 1980; Dubois et al., 2012). By effectively revealing one's superiority while contributing to the collective cause, knowledge sharing confers a decent opportunity of fulfilling one's desire for higher status. Thus, employees with a strong desire to attain social status will more proactively engage in knowledge sharing compared with employees with a weak status motive because this behavior is instrumental in achieving high prestige and social recognition. In line with this expectation, previous studies show that individuals with upwardly mobile desires tend to display their abilities at an enormous cost

(Hardy & Van Vugt, 2006; Hawkes & Bliege Bird, 2002; Milinski, 2006; Millet & Dewitte, 2007). Therefore, we hypothesize the following relationship.

H1: The need for status is positively related to knowledge-sharing behavior.

### ***Knowledge-sharing behavior and organizational recognition***

CST suggests that individuals advertise their underlying qualities at an expensive personal cost to serve the collective; thus, they achieve prestige and gain social recognition from others in the community (Gintis et al., 2001; Zahavi, 1995). As a result, individuals with a high need for status may fulfill their desire by sharing their specialized knowledge and skills to benefit the group. Through this signaling process, knowledge sharers earn prestige and recognition for their quality and contribution to the collective, whereas others benefit from the expanded public knowledge reservoir (Semmann, Krambeck, & Milinski, 2004). Thus, social recognition serves as a critical function in the recurrence and evolution of socially desirable behaviors (McAndrew, 2002) because “social prestige functions like a peacock’s tail or the song of a songbird. It attracts collaborators and deters rivals” (Zahavi, 1995, p. 2). Other members and key evaluators, such as supervisors, tell and spread stories of how an individual shares valuable knowledge for the common interest, thereby increasing the reputation and social standing of the knowledge sharer in the community (Milinski, 2006).

The status of a person in the organizational context depends largely on the recognition and endorsement of managers or supervisors, who are vested with formal authority and have legitimate power in allocating resources, such as incentives, promotions, and important tasks (Yukl, 2012). Supervisors form positive impressions of employees who exhibit voluntary contributions, such as interpersonal helping and extra effort toward positive organizational changes (Bolino et al., 2006; Rioux & Penner, 2001). Knowledge sharing is beneficial and necessary from the organizational perspective (Gong et al., 2013; Nonaka & Takeuchi, 1995); thus, supervisors recognize the value and contribution of employees who proactively share knowledge. Supervisory recognition embodies social prestige and status at the workplace (Yukl, 2012). Therefore, knowledge sharing should operate as an intermediate means to achieve organizational recognition and social standing, which is pursued by individuals with a high need for status. Thus, we propose the following mediated relationship.

H2: Knowledge-sharing behavior mediates the relationship between the need for status and organizational recognition.

### ***The moderating role of task visibility and task significance***

Human behavior results from interactions between a person and a given situation (Higgins, 1990); thus, the effect of the need for status on knowledge sharing and subsequent organizational recognition may emerge or disappear depending on the presence or absence of critical contextual factors. We draw on the conditions of broadcast effectiveness, as suggested by CST (Barclay, 2010; Gintis et al., 2001), to identify the contexts that activate the potential of the need for status toward knowledge sharing (Tett & Burnett, 2003). The effectiveness of costly signaling hinges on the presence of an audience to observe this behavior (Hardy & Van Vugt, 2006; Hawkes & Bliege Bird, 2002). Signaling behavior should carry significance to the group and the organization to be appreciated as a valuable contribution and maximize its broadcast effectiveness (Connelly et al., 2011; Gintis et al., 2001). Thus, we propose task visibility and significance as critical boundary conditions that accentuate the indirect effect of the need for status on organizational recognition through knowledge sharing.

### **Task visibility**

The intended benefit of costly signaling is achieved when the behavior is observable and can be appreciated by others, particularly those who are in the position to confer power and prestige (Barclay, 2010; Millet & Dewitte, 2007). An audience that is worthy of costly behaviors must be present, and these behaviors should be noticeable for many observers, which includes key decision-makers (Hawkes & Bliege Bird, 2002). Task visibility can activate the need for status to drive spontaneous knowledge sharing. Task visibility refers to “an employee’s belief that a supervisor is aware of the employee’s individual effort on the job” (Kidwell & Bennett, 1993, p. 446). Individuals withdraw resource-wasting efforts for the collective when they can hide in the crowd (Latane, Williams, & Harkins, 1979). Previous studies have demonstrated that low task visibility increases the propensity to withhold efforts, such as shirking and social loafing, and high task visibility decreases such free-riding behavior (Jones, 1984; Liden et al., 2004).

A high level of task visibility increases the probability of others noticing the achievements and contributions of knowledge sharers, thereby directly affecting their social standing (Kidwell & Bennett, 1993; Liden et al., 2004). Thus, task visibility can be an effective catalyst for individuals with a high need for status to express their desire by conspicuously displaying their distinct resources, such as their expertise and special task experiences (McIver et al., 2013). High task visibility provides a cue or trigger that stimulates the effect of the need for status. Those with a high need for status are less likely to actively engage in knowledge sharing without this cue because such efforts are unnoticed. Neither recognition nor sanction occurs particularly when supervisors cannot easily recognize the effort levels and contributions of their employees. Therefore, we propose the following moderated mediation hypothesis.

H3: Task visibility moderates the positive relationship between the need for status and organizational recognition that is mediated by knowledge-sharing behavior, such that the mediated relationship is stronger when task visibility is high than when it is low.

### **Task significance**

CST suggests that costly signaling behavior must be influential to the group and highly regarded by others to generate the intended returns of recognition and prestige (Hardy & Van Vugt, 2006; Millet & Dewitte, 2007). Thus, the significance of the task to the group can function as a critical boundary condition for leveraging the role of the need for status toward knowledge-sharing behavior. Task significance is defined as “the degree to which the job has a substantial impact on the lives of other people, whether in the immediate organization or in the external environment” (Hackman & Oldham, 1975, p. 161).

The broadcast effectiveness of knowledge sharing on social recognition and supervisory impressions hinges on how meaningful the task is for the entire group. When a costly signaling behavior, such as knowledge sharing, is significant for a group because the focal person’s task significantly affects others’ well-being and performance, its corresponding value and contribution to the collective are highly appreciated (Hawkes & Bliege Bird, 2002). As a result, individuals who perform more meaningful and important tasks for the collective interest tend to gain higher social prestige because many signalers compete to acquire or maintain high positions (Connelly et al., 2011; Smith & Bliege Bird, 2000). Therefore, task significance galvanizes the function of the need for status by urging the focal person to display how much he or she contributes to the group by providing valuable knowledge (Grant, 2007; Humphrey, Nahrgang, & Morgeson, 2007). Thus, we propose the following hypothesis.

H4: Task significance moderates the positive relationship between the need for status and organizational recognition that is mediated by knowledge-sharing behavior, such that the mediated relationship is stronger when task significance is high than when it is low.

## Method

### Sample and data collection

We collected data from 18 organizations in South Korea that represents the electronics, finance, food service, and manufacturing industries, among others. Two separate questionnaires were prepared for the employees and their immediate supervisors. The participants completed the questionnaires during regular working hours. We obtained usable responses from 146 employees and 42 supervisors from the initial sample of 200 employees and 50 supervisors (response rate = 73%). The multilevel power analysis indicated that the present sample of 42 Level 2 groups that are composed of 146 Level 1 individuals (3.65 Level 1 units per Level 2 group) provides sufficient statistical power that ranges between .75 and .96 with medium to large effect sizes at the .05 significance level (Scherbaum & Ferrerter, 2009, see Figures 1 and 2). Each participating supervisor evaluated an average of 3.65 employees, ranging between 2 and 6. The employee sample consists of 50.7% male individuals with an average age and organizational tenure of 35.4 ( $SD = 7.11$ ) and 6.1 ( $SD = 5.49$ ) years, respectively. The educational levels of the present participants consist of high school (2%), bachelor's degree (91.8%), and graduate degree (6.2%).

### Measures

The participants responded to all scale items on a 7-point Likert-type scale. Employees were asked to rate their need for status, task visibility, and task significance. Supervisors rated the knowledge-sharing behavior and organizational recognition of the employees. All scale items in English were translated into Korean and translated back to English for validity checking (Brislin, 1986).

### Need for status

We measured the need for status using the eight-item measure ( $\alpha = .89$ ) that was developed by Flynn, Reagans, Amanatullah, and Ames (2006). Sample items include “I want my peers to respect me and hold me in high esteem,” “Being a highly valued member of my social group is important to me,” and “I would like to cultivate the admiration of my peers.”

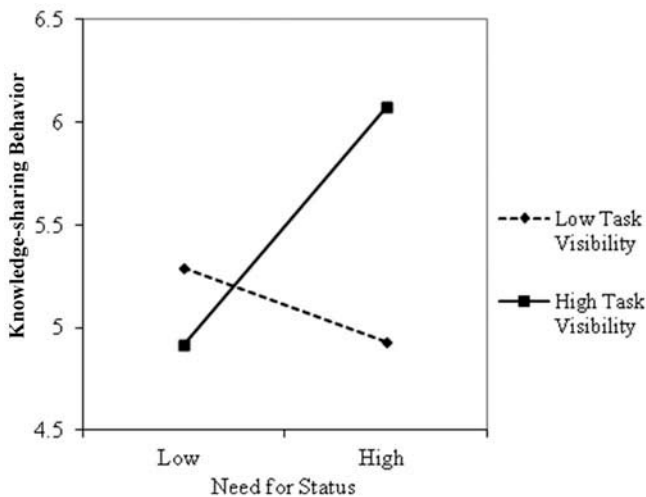


Figure 2. Interaction between the need for status and task visibility in predicting knowledge-sharing behavior.



### **Task visibility**

Task visibility was assessed through six items ( $\alpha = .85$ ) that were adopted from Liden et al. (2004). Sample items are “My supervisor is aware of the amount of work I do,” “My supervisor usually notices when an employee is slacking off,” and “My supervisor has difficulty determining how much effort I exert on the job” (reverse scored).

### **Task significance**

We used three items ( $\alpha = .89$ ) from the Job Diagnostic Survey (Hackman & Oldham, 1975) to measure task significance. This scale consists of the following items: “My job is significant and important in the broad scheme of things,” “This job is one where many people can be affected by how well the work is done,” and “The results of my work are likely to significantly affect the lives or well-being of other people.”

### **Knowledge-sharing behavior**

We adopted the seven-item scale ( $\alpha = .95$ ) developed by Srivastava et al. (2006) to evaluate the knowledge-sharing behavior of employees. Immediate supervisors evaluated the knowledge-sharing behavior of each participating employee by rating statements, such as “This employee freely provides others with hard-to-find knowledge or specialized skills,” “This employee shares a lot of what he/she knows with others,” and “This employee shares his/her special knowledge and expertise with others.”

### **Organizational recognition**

The organizational recognition of the participating employees was appraised by their immediate supervisors, who rated three items developed by Allen and Rush (1998). These three items ( $\alpha = .95$ ) were designed to assess the overall contribution and value of an employee to an organization, thereby offering a direct assessment of the extent to which the organization recognizes the particular employee. This scale consists of the following items: “This employee is highly valuable to our organization,” “This employee is a vital part of our organization,” and “This employee would be extremely costly to replace.”

### **Control variables**

We identified the control variables that are critical in addressing the practical design limitations of organizational field research (Spector & Brannick, 2011). We controlled for several demographic variables to rule out the alternative explanations of the current results by following the recommendations by Becker (2005), Bernerth and Aguinis (2016), and Spector and Brannick (2011). Previous studies based on CST suggested that individual characteristics, such as age, sex, company tenure, and education, are related to the proclivity toward resource sharing and social recognition because these characteristics make people experience different incentives for knowledge sharing and develop more or less interest in social reputations (Barclay, 2010; Flynn et al., 2006; Hardy & Van Vugt, 2006). Moreover, these demographic factors have been included in previous studies on knowledge sharing because these variables have been considered to have spurious effects in explaining the individual differences of knowledge sharing. However, these effects were inconsistent, thereby exhibiting positive, negative, and sometimes neutral effects on knowledge sharing (A. Cabrera et al., 2006; Kim & Yun, 2015; Lin, 2007; Srivastava et al., 2006). Moreover, we also checked the differences of results with and without the control variables prior to conducting a full-scale analysis (Becker, 2005; Spector & Brannick, 2011). The differences are reported next. Based on these considerations and justifications for their inclusion (Bernerth & Aguinis, 2016), we included four demographic variables—age, sex, company tenure, and education—as control variables in the current analysis. Age was measured in years, and sex was measured as a dichotomous variable coded as 0 for male and 1 for female. Company tenure was measured as the number of years that an employee worked for the company, and education was measured as categorical variables coded as 1 for high school, 2 for bachelor’s degree, and 3 for graduate degree.

## Results

We performed a series of confirmatory factor analyses to test the empirical distinctiveness of the variables in the present study (Hu & Bentler, 1998; Jöreskog, 1993). The hypothesized five-factor model, which includes three variables reported by employees and two variables rated by supervisors, produced an acceptable model fit to the observed data,  $\chi^2(313) = 619.18$ ,  $p < .001$ ; comparative fit index = .90, incremental fit index = .90, root mean square error of approximation = .08. This five-factor model performed better than did any alternative four-factor (e.g., combining task significance and visibility and combining supervisor-rated knowledge sharing and organizational recognition) or three-factor (combining all three employee-reported variables) models (chi-square difference tests, all  $p < .001$ ). All the indicators are significantly loaded on their corresponding latent factors (all  $p < .01$ ). These confirmatory factor analysis results confirm the convergent and discriminant validity of the present study variables. Table 1 reports the descriptive statistics and correlations among the employee demographic characteristics and study variables.

To test the current hypotheses, we conducted a series of hierarchical linear modeling (HLM) analysis to account for the interdependence of employees from the same work unit who were rated by the same supervisor (Raudenbush & Bryk, 2002). The proportions of between-group variance for knowledge-sharing behavior and organizational recognition in the current data were 48.8% and 40.2% of the total variance, respectively. Both were statistically significant ( $p < .001$ ), thereby indicating the need for using a multilevel analytic procedure, such as HLM, to consider the nested data structure.

We tested the moderated mediation hypotheses by following the procedure outlined by Preacher, Rucker, and Hayes (2007) to compare the statistical significance of the indirect effects of the need for status on organizational recognition via knowledge sharing at different levels of task attributes, such as visibility and significance. The significance of these conditional indirect effects was tested by the bootstrapping procedure. We controlled the potential effects of employee demographics, including age, sex, company tenure, and education, in all the analyses for hypothesis testing (Bernerth & Aguinis, 2016; Spector & Brannick, 2011).

### Main and mediated effects of the need for status

In accordance with CST, we proposed that employees' need for status increases their knowledge sharing. The present HLM analysis confirms that the need for status is positively related to knowledge-sharing behavior ( $\gamma = .30$ ,  $p < .01$ ; see Model 1 of Table 2). Therefore, H1 is supported.

H2 posits that knowledge-sharing behavior mediates the effect of the need for status on organizational recognition. The need for status exhibits a significantly positive effect on organizational recognition ( $\gamma = .36$ ,  $p < .05$ ), which becomes insignificant ( $\gamma = .09$ ,  $p > .05$ ) when knowledge-sharing behavior is introduced to the equation ( $\gamma = .61$ ,  $p < .001$ ; see Model 7 in Table 2). These

**Table 1.** Means, standard deviations, and correlations among study variables.

	M	SD	1	2	3	4	5	6	7	8
1. Age	35.43	7.11								
2. Sex	.49	.71	.07							
3. Tenure	6.09	5.49	.50***	.01						
4. Education	2.74	.60	-.12	-.14	-.09					
5. Need for status	4.73	.87	-.22**	.01	.03	.26**				
6. Task visibility	4.26	.40	.12	-.06	.07	-.01	.08			
7. Task significance	4.61	.96	-.02	-.14	.18*	.17*	.50***	.19*		
8. Knowledge-sharing behavior	4.83	.95	-.03	-.29**	.19*	.08	.25**	.21*	.28**	
9. Organizational recognition	5.00	1.21	.04	-.27**	.12	.17*	.29***	.20*	.32***	.69***

Note.  $N = 146$ . Two-tailed test. Age and tenure in years; sex (male = 0, female = 1); education (high school = 1, bachelor's degree = 2, graduate degree = 3).

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

**Table 2.** Results of hierarchical linear modeling.

Variables	First-stage dependent variable = knowledge-sharing behavior			Second-stage dependent variable = organizational recognition			
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Control variables							
Constant	4.76***	5.02***	5.03***	4.15***	4.45***	4.51***	4.24***
Age	.01	-.01	-.01	.01	.01	.01	.01
Sex	-.40***	-.38***	-.40***	-.30*	-.26*	-.29*	-.05
Tenure	.02	.03	.02	.03	.02	.02	-.01
Education	-.02	-.01	-.01	.14	.10	.09	.10
Independent variable							
Need for status	.30**	.25*	.26**	.36*	.28*	.27*	.09
Moderating variables							
Task visibility		.40*	.19		.45	.25	-.02
Task significance		.03	-.03		.11	.08	.06
Need for status × task visibility			.41*			.36	.04
Need for status × task significance			.18*			.11	.01
Mediating variable							
Knowledge-sharing behavior							.61***
Pseudo-R <sup>2</sup>	.12	.16	.20	.11	.15	.19	.35

Note.  $N = 146$ .

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

relational patterns offer supporting evidence to the mediation by knowledge sharing based on the procedure of Baron and Kenny (1986). We also tested the significance of this mediation process by using the bootstrapping procedure, which is a recommended approach to circumvent common problems associated with mediating effects, such as asymmetric and non-normal sampling distributions (MacKinnon, Fairchild, & Fritz, 2007). The bootstrapping results also confirm that the need for status has a significant indirect effect via knowledge-sharing behavior on organizational recognition: point estimate = .25,  $p < .01$ , 95% confidence interval (CI) [.07, .43]. Thus, H2 is supported.

### Mediation moderated by task visibility

H3 states that task visibility moderates the indirect effect of the need for status. To test this moderated mediation hypothesis, we examined two conditions (Muller, Judd, & Yzerbyt, 2005; Preacher et al., 2007): (a) the significant interaction between the need for status and task visibility in predicting knowledge-sharing behavior and (b) significantly different levels of indirect effects of the need for status on organizational recognition via knowledge-sharing behavior that is contingent on the level of task visibility.

The first condition was verified and reported in Model 3 of Table 2. Thus, task visibility exhibited a significant interaction with the need for status in predicting knowledge-sharing behavior ( $\gamma = .41$ ,  $p < .05$ ). We conducted a simple slope analysis to further probe this significant interaction (Aiken & West, 1991). The two regression lines that are depicted in Figure 2 confirm that the relationship between the need for status and knowledge-sharing behavior was positive and significant ( $b = .58$ ,  $p < .01$ ) when task visibility was high (1 *SD* above the mean). The same relationship became insignificant ( $b = -.18$ ,  $p > .05$ ) when task visibility was low (1 *SD* below the mean).

The moderated mediation hypothesis was also confirmed by using the second condition based on the bootstrapping procedure. Table 3 summarizes the results of the bootstrapping analysis with all the control variables included as covariates. The conditional indirect effect of the need for status on organizational recognition via knowledge-sharing behavior was significant when task visibility was high: point estimate = .34,  $p < .01$ , 95% CI [.16, .57]. However, this effect was insignificant when task visibility was low: point estimate = .01,  $p > .05$ , 95% CI [-.36, .32]. These patterns confirm H3.

**Table 3.** Bootstrapped moderated mediation results.

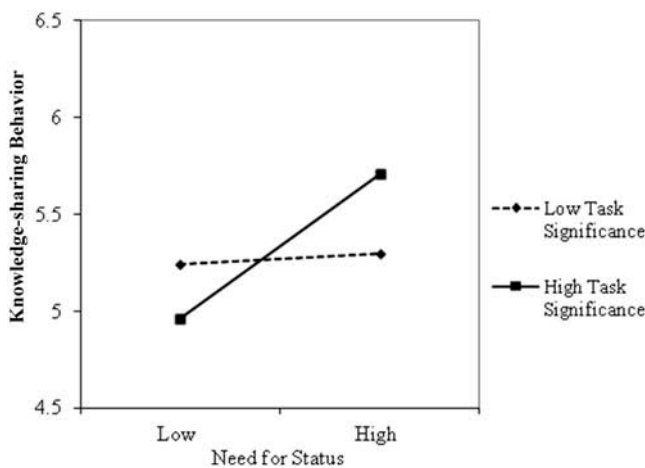
Independent variable	Mediator	Dependent variable	Moderator	Moderator level	Conditional indirect effect	Product of coefficients			Bootstrapping bias-corrected 95% confidence interval	
						SE	z	p	Lower	Upper
Need for status	Knowledge-sharing behavior	Organizational recognition	Task visibility	Lo ( <i>M</i> - 1 <i>SD</i> )	.01	.18	.07	> .05	-.36	.32
				<i>M</i>	.18	.11	1.65	> .05	-.04	.36
			Task significance	Hi ( <i>M</i> + 1 <i>SD</i> )	.34	.10	3.32	< .01	.16	.57
				Lo ( <i>M</i> - 1 <i>SD</i> )	.03	.14	.21	> .05	-.22	.34
				<i>M</i>	.23	.09	2.43	< .05	.04	.40
				Hi ( <i>M</i> + 1 <i>SD</i> )	.43	.15	2.93	< .01	.13	.69

Note. Bootstrap sample size = 1,000. Values in bold are significant effects.

### Mediation moderated by task significance

H4 proposes the moderating role of task significance in the mediated effect of the need for status. We examined the two conditions, as previously described (Preacher et al., 2007). The need for status and task significance showed a significant positive interaction in predicting knowledge-sharing behavior ( $\gamma = .18, p < .05$ ), thereby confirming the first condition. We conducted a simple slope analysis to examine this interaction further. Figure 3 revealed that the relationship between the need for status and knowledge-sharing behavior was positive when task significance was high ( $b = .37, p < .01$ ) but was statistically insignificant when task significance was low ( $b = .03, p > .05$ ).

These significant interaction patterns were reaffirmed in the subsequent tests of conditional indirect effects using bootstrapping. The conditional indirect effect of the need for status on organizational recognition via knowledge-sharing behavior was significant and positive when task significance was high—point estimate = .43,  $p < .01$ , 95% CI [.13, .69]—but was not significant when task significance was low, point estimate = .03,  $p > .05$ , 95% CI [-.22, .34]. These results confirm H4.



**Figure 3.** Interaction between the need for status and task significance in predicting knowledge-sharing behavior.

### Post hoc analysis

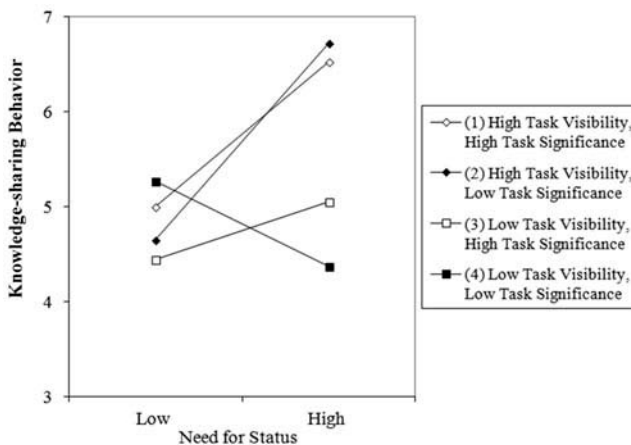
We conducted three post hoc analyses to examine the robustness of the present empirical findings. First, we tested if the analysis results may change when the control variables are not included in the multilevel equations in accordance with the recommendation regarding the treatment of control variables (Becker, 2005; Spector & Brannick, 2011). Without the control variables, the overall results remained the same, except that the moderating effect of task significance on the relationship between the need for status and knowledge-sharing behavior became statistically insignificant. Thus, the overall empirical patterns were relatively stable with or without the control variables.

Second, we also tested the possibility that task visibility and significance moderate the relationship between knowledge-sharing behavior and organizational recognition given that employees' knowledge sharing can generate recognition and prestige when they perform highly visible and significant tasks. This follow-up analysis showed no significant findings ( $\gamma = .06$  and  $-.01$ , respectively; both  $p > .05$ ), thereby indicating that the positive moderating effects of task visibility and significance were activated only for the relationship between the need for status and knowledge sharing.

Third, we conducted an analysis to test the possibility of a three-way interaction among the need for status, task visibility, and task significance in predicting knowledge-sharing behavior. The results showed that the three-way interaction was statistically significant ( $\gamma = -.33$ ,  $p < .01$ ) with an increase in pseudo  $R^2$  from .20 to .24. This significant three-way interaction is depicted in Figure 4. When task visibility was high, the need for status was strongly associated with knowledge-sharing behavior under both high and low task significance ( $b = 2.27$  and  $2.78$ , respectively; both  $p < .01$ ). Thus, high task visibility was a robust booster of the role of the need for status toward knowledge sharing. By contrast, when task visibility was low, the need for status showed a positive (although statistically insignificant) and negative associations with knowledge-sharing behavior when task significance was high and low, respectively ( $b = 1.22$ ,  $p > .05$  and  $b = -1.69$ ,  $p < .05$ , respectively). Apparently, task significance becomes a meaningful contingency for the effect of the need for status only when task visibility is low. Consistent with CST, the need for status became a negative predictor of knowledge-sharing behavior when task visibility and significance were low.

### Discussion

Given the inherent motivational dilemma of knowledge sharing, researchers have examined the extrinsic incentives or self-sacrificial motives toward the collective well-being to explain employee sharing of special knowledge and expertise (Bartol & Srivastava, 2002; A. Cabrera et al., 2006).



**Figure 4.** Post-hoc analysis: Three-way Interaction among the Need for Status, Visibility, and Task Significance in Predicting Knowledge Sharing Behavior.

Drawing on CST, the current study identified an alternative underlying motivation that urges employees to proactively supply highly valued resources to others. We specifically proposed that the need for status facilitates individuals' sharing of tacit knowledge with others, which in turn promotes their social prestige in terms of organizational recognition. We further drew on the CST notion of the broadcast effectiveness and isolated task visibility and significance as contextual cues that stimulate individuals with a high need for status to actively engage in knowledge sharing. The analysis of the data collected from 146 employees and their supervisors confirmed all the predictions based on CST. The critical findings, their implications, and the limitations of the study are discussed, and directions for future research are suggested.

### **Theoretical implications**

The social behavior of individuals may be formed by intricate motivational orientations, which are interwoven with selfish and altruistic instincts. Selfish motives sometimes lead to altruistic behaviors. By addressing this puzzling phenomenon, CST provides a novel perspective on resource sharing and maintains that individuals can increase their own social standing and earn preferential treatment by acting in ways that conspicuously offer highly valued benefits to others (Zahavi, 1995). This explanation that bridges selfish motive (e.g., attaining higher social prestige) and altruistic behavior (e.g., producing public goods) has been utilized in the fields of anthropology, biology, and psychology. The present study applies CST to knowledge sharing behavior in organizations to explore why some individuals willingly share their valuable knowledge despite the motivational dilemma. This approach addresses recent calls to reevaluate the underexplored proactive aspects of knowledge sharing where people strategically exploit their resource losses to obtain the overall benefits simply beyond immediate external incentives (Wang & Noe, 2010; Wasko & Faraj, 2005).

The present findings indicate that employees may actively share their special skills and tacit knowledge to fulfill their need for status and other internal dispositions instead of being driven merely by external remuneration. Previous studies have identified self-enhancement motives and accompanying impression management tactics (Bolino, 1999; Grant & Mayer, 2009; Yun et al., 2007) to explain the emergence of citizenship behaviors. An intriguing direction for the theoretical and empirical validation of these distinct internal drivers of altruistic behavior such as knowledge sharing may involve the contrast of additional individual dispositions. For instance, motives based on CST may activate individuals with a high need for power or extroversion (i.e., the dominance dimension) to exhibit an unsolicited and spontaneous display of their resourcefulness, such as tacit knowledge and special expertise (A. Cabrera et al., 2006; Ipe, 2003). However, motives based on self-enhancement or impression management may stimulate individuals with a high need for affiliation or agreeableness to adjust their behavior even against their own will to exhibit positive images and achieve social acceptance (Grant & Mayer, 2009; Rioux & Penner, 2001).

Another theoretical challenge in applying CST to knowledge-sharing behavior originates from the paradoxical nature of knowledge, which is a source of motivational dilemma. Talent and intuitive knowledge that is obtained through intensive education and work experience are primarily tacit (McIver et al., 2013). Thus, when less of this knowledge is revealed, the value that it offers is greater by virtue of its exclusiveness. However, sharing such high-quality tacit knowledge is an excellent means of "showing off" the hidden quality of individuals. CST holds that the signal is more reliable when the behavior is more costly. Precisely for this reason, the sources of signaling are labeled as "handicaps," which can actually harm sharers by costly signaling (Grafen, 1990; Zahavi, 1995). Tacit, secretive knowledge is a source of exclusive competitive advantage, which can turn into a handicap once shared; thus, CST provides an alternative theoretical rationale, because people readily share tacit knowledge by emphasizing the social consequences. Further research efforts should elaborate on the channeling mechanisms that trigger either generous knowledge sharing or stingy knowledge hoarding considering the constant presence of these dilemmatic motivational implications of

knowledge sharing. Both concepts appear as equally plausible behavioral options in a mixed-motivation situation (Ipe, 2003; Wang & Noe, 2010).

To address the issue of the motivational dilemma, we theorized and empirically validated that individual dispositions, such as the need for status, can provide a plausible account of employee knowledge-sharing behavior beyond the rational choice of knowledge hoarding. The present analysis further reveals that the emergence of the positive link between the status motive and knowledge sharing is contingent on task attributes, such as visibility and significance. Individuals are likely to reserve their signaling efforts for situations in which others can witness their display, and their behavior consequently affects the community at large because signaling behavior aims to increase social prestige (Hardy & Van Vugt, 2006; Semmann et al., 2004). Conforming this prediction based on CST, the need for status is significantly related to knowledge sharing and subsequent organizational recognition only when task visibility and significance are high.

The present theoretical and empirical analysis resonates with the emerging emphasis on job design factors, particularly the burgeoning interest in task significance and visibility as the core job characteristics (Grant, 2007; Humphrey et al., 2007). Thus, organizations can effectively encourage employees to proactively share critical knowledge by creating work contexts that are appropriate to fulfill their hidden desire for status beyond or in addition to offering financial remunerations in return for knowledge sharing. Thus, managers should elicit beliefs among employees that their efforts are distinguishable and valuable such that any cost incurred is not wasted (Srivastava et al., 2006). The present study demonstrates the role of task properties as critical boundary conditions of the activation of CST-driven dynamics at the workplace for important behavior in the present knowledge-centered era.

### ***Study limitations and directions for further research***

The present findings should be evaluated considering several limitations. First, the analysis did not establish causality, because it is based on cross-sectional data. The current theoretical predictions and directions are congruent with the core ideas of CST that have been observed in diverse disciplines (Gintis et al., 2001; Grafen, 1990; Hardy & Van Vugt, 2006; Hawkes & Bliege Bird, 2002; McAndrew, 2002; Zahavi, 1995); nevertheless, future research must corroborate the causality among variables with longitudinal data or controlled experiments.

Second, the current study primarily focused on the differences of individual characteristics in knowledge sharing; thus, it did not consider the potential effects of organizational culture or knowledge management system on knowledge-sharing behavior. However, given that the degree of individuals' knowledge sharing can markedly differ depending on the types of organizational culture (i.e., innovative culture; Riege, 2005) and the presence of knowledge management systems (i.e., availability of intranet and suggestion systems; A. Cabrera et al., 2006), future research must examine these organizational characteristics that affect the degree of individuals' knowledge sharing by adopting a multilevel design.

Third, the present focus on task characteristics as boundary conditions neglects other potential factors that may modify the nature and strength of the relationship between the need for status and knowledge-sharing behavior. A comprehensive and contextualized understanding of knowledge sharing based on CST can be attained by probing additional predictors and contingencies, such as individual differences (e.g., hierarchical position, task experiences, efficacy beliefs, and sex; A. Cabrera et al., 2006), interpersonal connectivity (e.g., network centrality and boundary-spanning role; Wasko & Faraj, 2005), and other contextual factors (e.g., task interdependence and group norms; E. F. Cabrera & Cabrera, 2005).

Finally, the generalization of the current findings to broad cultural and national contexts should be performed cautiously because the present sample involves only South Korean employees. An interesting finding that is possibly driven by the current cultural context is the significant difference between men and women; female employees showed a significantly lower level of knowledge sharing

than did their male counterparts. In South Korea, ostentatious displays of knowledge can be regarded as arrogant and socially inappropriate because modesty is highly appreciated as a virtue (Hofstede, 1991). Such cultural norms for modesty can be combined with the gender-based roles or identities in South Korean organizations, which tend to place women in a rather passive and compliant role. Consistent with this explanation, studies conducted in Western societies, such as A. Cabrera et al. (2006), reported that the degrees of knowledge sharing between male and female participants were not different. Future studies should examine the combined effects of national culture and sex on knowledge-sharing behavior to further explore the generalizability of CST implications for knowledge sharing across different demographic populations and cultural settings.

In conclusion, we borrowed insights from CST and offered a new perspective on the possibility that employees proactively share their tacit knowledge generously and proactively rather than grudgingly and hesitantly. Proactive and open-handed knowledge sharing, which signals considerable cost, provides sharers prestige and status that cannot be achieved by minor and fake signaling behavior (Gintis et al., 2001; Zahavi, 1995). A self-sacrificing or self-effacing behavior can be an effective strategy to manifest superiority. However, this explanation is not meant to derogate or detract from altruism based on pure goodwill. We believe that the current elaboration of a plausible alternative motivational path toward proactive knowledge sharing enriches the understanding of this behavior in organizations. The present investigation based on CST could encourage researchers and practitioners to establish a rich array of alternative motivational pathways to knowledge sharing, which reveals the hidden motives and resultant behaviors of “rational animals” in organizational settings.

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