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Ethical leadership and employee knowledge sharing: Exploring dual-mediation paths

Yuen Lam Bavik^{a,*}, Pok Man Tang^b, Ruodan Shao^c, Long Wai Lam^d

^a Department of Management and Marketing, The Hong Kong Polytechnic University, Hong Kong

^b Department of Management, Lingnan University, Hong Kong

^c Department of Business Administration, University of Manitoba, Canada

^d Department of Management and Marketing, University of Macau, Macau

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ABSTRACT

Drawing on social learning and self-determination theories, this study investigates the mediating effects of controlled motivation for knowledge sharing and moral identity in the relationship between ethical leadership and employee knowledge sharing. We conducted a field study with 337 full-time employees to test our hypotheses. Results supported the mediating effects of both controlled motivation and moral identity in accounting for the relationship between ethical leadership and employee knowledge sharing. Our study is among the first to examine whether and why ethical leadership predicts employee knowledge sharing. Theoretical and practical implications are discussed.

The competitiveness of an organization greatly depends on the effectiveness of its knowledge management (Riege, 2005); the success of its knowledge management largely relies upon employees' motivation and willingness to engage in knowledge sharing (Gagné, 2009; Gibbert & Krause, 2002). Knowledge sharing, defined as “the act of making knowledge available to others within the organization” (Ipe, 2003, p. 32), has been found to be crucial for achieving effectiveness and greater innovation at the individual level (e.g., Huang, Hsieh, & He, 2014; Kim & Lee, 2013), team level (e.g., Gardner, Gino, & Staats, 2012; Gong, Kim, Lee, & Zhu, 2013; Srivastava, Bartol, & Locke, 2006), and organizational level (e.g., Andreeva & Kianto, 2012; Tsai, 2001). Not only is knowledge sharing essential for individuals and/or firms to pursue better performance, it has also been increasingly recognized as a moral challenge in organizations (e.g., Gentile, 1998; Jarvenpaa & Staples, 2001; Styhre, 2002; Van den Hooff & de Leeuw van Weenen, 2004; Wang, 2004). Lin (2007) has argued that employees' refusal to share knowledge with coworkers threatens the fundamental interests of an organization, such as its survival and competitiveness in the market, and hence might be considered a violation of the moral norm in organizations. Given the practical importance of knowledge sharing, it is essential for researchers to investigate the factors that influence employees' willingness and motivation to engage in knowledge sharing with coworkers (Bock, Zmud, Kim, & Lee, 2005).

To date, research on knowledge sharing generally follows the social capital approach to investigate the potential antecedents of knowledge sharing (e.g., Burt, 1992; Cross & Cummings, 2004; Hu & Randel, 2014; Inkpen & Tsang, 2005). While this line of research has contributed to our understanding of the important roles that contextual factors and organizational cues play in engendering effective knowledge sharing, this literature is still limited in several ways.

First, little to no research has investigated the effects of leadership on employees' knowledge sharing, despite the important roles

* Corresponding author at: Department of Management and Marketing, The Hong Kong Polytechnic University, MN101, Li Ka Shing Tower, Hong Kong.

E-mail addresses: yuenlam.bavik@connect.polyu.hk (Y.L. Bavik), pokmantang@ln.hk (P.M. Tang), ruodan.shao@umanitoba.ca (R. Shao), ricolam@umac.mo (L.W. Lam).

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leaders play in determining subordinates' behavior at work. [Srivastava et al. \(2006\)](#) have specifically argued for the importance of empowering leadership in followers' knowledge sharing. However, the mechanisms linking leadership styles and knowledge sharing still remain unexplored. Second, while the majority of prior research has taken the social capital perspective to study knowledge sharing, little research has taken a moral lens to examine how leaders' ethicality shapes employees' knowledge sharing behavior, even though knowledge sharing behavior has moral relevance. As we elaborate below, it is theoretically plausible that ethical leadership might be an important predictor of employees' knowledge sharing behavior. [Brown, Treviño, and Harrison \(2005\)](#) define ethical leadership as “the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct to followers through two-way communication, reinforcement, and decision-making” (p. 120). There are two major pillars to ethical leadership: a leader must be a *moral person* (demonstrating moral characteristics and traits in his/her behavior as a role model) and a *moral manager* (actively promoting moral principles through two-way and open communication, rewards, and punishment). Extant research has consistently shown that ethical leadership nurtures positive and morally desirable behavior among employees (e.g., [Huang & Paterson, 2014](#); [Kacmar, Bachrach, Harris, & Zivnuska, 2011](#); [Liu, Kwan, Fu, & Mao, 2013](#); [Newman, Kiazad, Miao, & Cooper, 2014](#); [Wang & Sung, 2016](#)). Third, to the extent that ethical leadership might predict employees' knowledge sharing behavior, we do not know whether the two sub-dimensions of ethical leadership, namely that the leader is a *moral person* and *moral manager*, play different roles in motivating employees to engage in knowledge sharing. In short, we do not know whether the effects of these two pillars of ethical leadership on followers' behavior (e.g., knowledge sharing) are channeled through different mechanisms.

To address these limitations, we seek in the present research to explore the role of ethical leadership in shaping individual employees' knowledge sharing with their coworkers and examine the two mediation mechanisms (based on the conceptualization of ethical leadership) that account for the proposed effect. We propose the moral approach as a new line for investigating the antecedents of interpersonal knowledge sharing among employees in organizations.

Our research has both theoretical and practical importance. From a theoretical perspective, our research contributes to the literature on ethical leadership and knowledge management in important and meaningful ways. First, we investigate whether ethical leadership can serve as an important predictor of employees' knowledge sharing behavior. Although knowledge sharing has been increasingly recognized as moral conduct in an organizational setting (e.g., [Brief & Motowidlo, 1986](#); [Wang, 2004](#)), surprisingly, no prior work has empirically investigated knowledge sharing through a moral lens. Hence, our study is among the first to consider ethical leadership as an important antecedent of knowledge sharing. Second, through the integration of self-determination and social learning theories, we identify employee controlled motivation for knowledge sharing and moral identity as two distinct pathways through which ethical leadership is associated with employee knowledge sharing. Interconnecting the intervening roles of both *moral person* and *moral manager*, this study advances theory by delineating the roles of different regulatory mechanisms in the process of ethical leadership. Moreover, whereas the majority of past studies on knowledge sharing have adopted [Nahapiet and Ghoshal's \(1998\)](#) social capital framework (i.e., cognitive, relational, and structural dimensions) to guide their research on the macro and firm levels (e.g., [Burt, 1992](#); [Cross & Cummings, 2004](#); [Hu & Randel, 2014](#); [Inkpen & Tsang, 2005](#)), this study adopts a moral perspective to consider knowledge sharing as an interpersonal-level and morally-relevant phenomenon and examine ethical leadership as a predictive variable of knowledge sharing. Doing so, we offer a novel perspective for the knowledge management literature to understand such behavior. From a practical perspective, our study highlights the important role that leaders play in fostering knowledge sharing in the workplace. Leaders' ethical behavior will have a positive effect in terms of employees' knowledge sharing actions at work, which has major implications for companies that are particularly interested in promoting the use and retainment of intangible assets through employees' knowledge sharing and information exchange.

Theory and hypotheses

Ethical leadership and employee knowledge sharing

As explained above, knowledge sharing refers to “acts of making knowledge available to others within the organization” ([Ipe, 2003, p. 32](#)). The construct of knowledge sharing is theoretically distinct from knowledge transfer. Although both constructs may be influenced by the social and environmental context ([Szulanski, Cappetta, & Jensen, 2004](#); [Wang & Noe, 2010](#)), the enactment of knowledge sharing is often a function of the knowledge sharer's motivation, willingness, and attitude ([Cabrera & Cabrera, 2002](#); [Gagné, 2009](#)), whereas the success of knowledge transfer depends upon the capabilities and motivation of both the knowledge transferors and transferees, and the relationship between the two ([Szulanski, 1996](#); [Tsai, 2001](#)).

In addition, knowledge sharing is also different from voice, which has been defined as “behavior that proactively challenges the status quo and making constructive suggestions” ([Van Dyne, Cummings, & McLean Parks, 1995, p. 266](#)). Although both knowledge sharing and voice involve risk-taking and are regarded by researchers as extra-role behavior ([Abrams, Cross, Lesser, & Levin, 2003](#); [Bartol, Liu, Zeng, & Wu, 2009](#); [Gao, Janssen, & Shi, 2011](#); [Lee, 2001](#); [Van Dyne & LePine, 1998](#)), voice is a form of assertive nonconformance that may lead to disruptive alterations to an organization and have an unfavorable effect on interpersonal outcomes ([Graham & Van Dyne, 2006](#); [Tangirala & Ramanujam, 2008](#)). In contrast, knowledge sharing, which is by nature prosocial, has been proven to be beneficial for interpersonal cooperation and collective effectiveness (e.g., [Collins & Smith, 2006](#); [Srivastava et al., 2006](#)).

To date, research examining antecedents of knowledge sharing generally follows the social capital perspective, which identifies three sub-categories of antecedents: *relational*, *structural*, and *cognitive* factors. From the relational perspective, knowledge sharing can be determined by a) the mutual trust between the knowledge sharer and the knowledge recipient ([Butler, 1999](#); [Holste & Fields, 2010](#)); b) the perceived managerial support ([Brachos, Kostopoulos, Eric Soderquist, & Prastacos, 2007](#)); and c) the type and the

strength of social ties (Levin & Cross, 2004; Lin, 2006). According to the structural approach, knowledge sharing can also be influenced by factors such as the level of structural diversity in work teams (Cummings, 2004) and the types and patterns of social network (Hansen, Mors, & Løvås, 2005), along with organizational communication system (Yang & Chen, 2007), incentive system (Siemsen, Balasubramanian, & Roth, 2007), and knowledge management system (Watson & Hewett, 2006). Finally, the cognitive approach suggests that individuals' perceptions of norms such as reciprocity norms (Burgess, 2005), organizational culture (Ipe, 2003), performance goals (Quigley, Tesluk, Locke, & Bartol, 2007), and subjective norms (Brock et al., 2005) can affect knowledge sharing.

While this literature can contribute to our understanding of when and why knowledge sharing occurs at a network- or firm- level, we believe that taking a moral lens to examine the antecedent of interpersonal-level knowledge sharing can further advance knowledge management research, because knowledge sharing has moral relevance (Lin, 200; Lin and Joe, 2012; Wang, 2004). In the following sections, we explain why knowledge sharing can be considered as an ethical behavior in the workplace and how ethical leadership can shape employees' knowledge sharing.

As explained above, knowledge acquisition requires individuals to devote a tremendous amount of time and effort (Szulanski, 1996, 2000). Acquired knowledge can be valuable and instrumental for individuals to secure resources such as status, power, and rewards in organizations and society (Gagné, 2009). Therefore, knowledge is "sticky" in nature (Szulanski, 2000). Wang (2004) has even referred to knowledge sharing as a generous and ethical act of "donation", which is particularly the case in the workplace. Whereas withholding knowledge maximizes one's self-interest and bargaining power, it hurts a team and an organization by hindering their functioning, mobilization of resources, and fundamental survival (Collins & Porras, 1997; Isaac, Herremans, & Kline, 2010), and for this reason may be considered a moral transgression.

In an organizational context, unethical behavior violates either explicit (formal) or implicit (informal) norms and has undesirable consequences to stakeholders, regardless of whether or not the behavior is actually intended to harm (Kaptein, 2008). Like other types of unethical behavior examined in the literature (e.g., over-reporting of performance, lying, and counterproductive behavior such as foot-dragging on a job), reluctance to share knowledge is driven by individuals' concern for their own self-interest at the expense of the general welfare of other stakeholders. As such, knowledge sharing has great moral relevance.

It is true, however, that in some situations employees might intentionally withhold knowledge for prosocial reasons, such as protecting the interests or privacy of others (Connolly, Zweig, Webster, & Trougakos, 2012). This is related to the concept of unethical pro-organizational behavior introduced by Umphress, Bingham, and Mitchell (2010), which refers to actions that are intended to promote the effective functioning of the organization or its members but violate core societal values, mores, laws, or standards of proper conduct (Umphress & Bingham, 2011, p. 622). In such situations, keeping knowledge from external members (e.g., clients, members from another functional unit, investors) for the good of internal members (e.g., team members, supervisors) may be considered a behavior that is unethical and yet pro-organization, because it benefits certain individuals in the company at the expense of the interests of the larger community. In the current study, we focus on employee knowledge sharing with other team members (in-group members), which is purely moral and prosocial in nature. It follows that a lack of knowledge sharing among in-group members not only violates the moral norms in the organization but is also detrimental to team functioning and organizational survival, and therefore can be regarded as immoral behavior within an organization (Lin, 2007; Wang, 2004).

Leadership has been highlighted as a key factor influencing the interpersonal process of knowledge sharing in organizations (e.g., DeTienne, Dyer, Hoopes, & Harris, 2004; Kim & Yun, 2015; Srivastava et al., 2006). Given the moral importance of knowledge sharing, we posit that leader ethicality might predict knowledge sharing. According to Brown and Treviño (2006), ethical leadership is characterized by morally desirable traits such as fairness, openness, and trustworthiness (Brown et al., 2005), all of which are essential elements that promote knowledge sharing (Brock et al., 2005; Ipe, 2003). Ethical leaders can provide their followers with both the opportunities and motivation essential for knowledge sharing. First, through implementing policies and systems that promote morality (e.g., an ethics code, guidelines for ethical decision-making, an open two-way communication system, a just reward system), ethical leaders help reduce the physical barriers constraining mutual sharing of resources among employees. Second, through role modeling normatively appropriate behavior, ethical leaders personally demonstrate their organizations' values and norms (e.g., trust, friendliness, care for others' needs, fairness).

Based on these arguments, we predict that ethical leadership contributes to employee knowledge sharing by removing the structural barriers hindering knowledge sharing, nurturing the formation of trusting relationships in the workplace, and developing employees' anticipation of fair reciprocation for their contributions and resource sharing (Kacmar, Andrews, Harris, & Tepper, 2013; Lam, Loi, Chan, & Liu, 2016; Mayer, Aquino, Greenbaum, & Kuenzi, 2012). Indeed, the literature of knowledge management has documented the essential role of leadership in creating norms and guidance that foster knowledge sharing (Von Krogh, Nonaka, & Rechsteiner, 2012). Supporting our claim, prior empirical studies have also demonstrated that ethical leadership promotes followers' positive and prosocial behavior, including voice (Avey, Wernsing, & Palanski, 2012; Zhu, He, Treviño, Chao, & Wang, 2015) and interpersonal helping (Kacmar et al., 2013), and negatively related to deviance (van Gils, van Quaquebeke, van Knippenberg, van Dijke, & De Cremer, 2015). Based on these theoretical arguments and empirical evidence, we hypothesize that:

Hypothesis 1. *Ethical leadership is positively associated with employee knowledge sharing.*

We further expect that ethical leadership promotes employee knowledge sharing through two principal mechanisms, consistent with the conceptualization of an ethical leader as both a *moral manager* and a *moral person*. We delineate these mediation mechanisms in the following section, with respective mediation hypotheses.

The mediating role of employee controlled motivation for knowledge sharing

As a moral manager, ethical leaders may alter individuals' behavior via transactional means. One of the key criteria qualifying an individual to be a moral manager is the implementation of policies and behavioral control systems that align with his/her moral principles. These instruments serve as external regulations motivating employees to engage in desirable behavior that comply with organizational norms. According to self-determination theory, human behavior is regulated in the extent to which it is controlled versus autonomous (Deci & Ryan, 1985; Ryan & Deci, 2000; Williams & Deci, 1996). Along the controlled-to-autonomous continuum of motivation, controlled motivation is considered the most prototypical form of extrinsic motivation (Gagné & Deci, 2005). Extrinsic motivation is a regulatory force associated with a lower level of personal autonomy and higher level of external pressure/force, such as monetary rewards, performance goals, and non-monetary benefits such as reputation, need for affiliation, and avoidance of negative judgments (Gagné, 2009; Jeon, Kim, & Koh, 2011; Lin, 2007). Extrinsically motivated behavior is driven by external contingencies (e.g., concern for instrumental gains, desire for others' approval, fear of undesirable consequences). Without the presence of controlled motivation, individuals are unlikely to persist in such behavior. It is theoretically plausible that ethical leaders as *moral managers* can use controlled motivation to regulate employee behavior (e.g., knowledge sharing).

Mounting research has showed that controlled motivation is as important as internal regulation for encouraging employees to actively share knowledge with their coworkers (e.g., Bock et al., 2005; Gagné, 2009; Ipe, 2003; Lin, 2007; Scott, 2000). Driven by instrumental goals and strategic decision-making, extrinsically motivated employees tend to carefully engage in cost/benefit evaluation before they decide to share knowledge with coworkers. Eisenberger and Shanock (2003) argue that extrinsic motivation is functional in increasing individuals' anticipation of rewards and their subsequent performance. Supporting these arguments, Lin (2007) has conducted a field study showing that employees' instrumental expectations of reciprocal benefits strongly predict their subsequent intention to share knowledge. Building on incentive theory (Lawler, 1981), Quigley et al. (2007) also provided consistent empirical findings showing that interpersonal knowledge sharing could be enhanced by team-based incentive systems. Further, Liao (2008) revealed that employees could be directly motivated to engage in knowledge sharing due to controlled motivations such as leaders' reward power; that is, their ability to control and administer rewards for desired behavior (cf. French, Raven, & Cartwright, 1959). Taken together, we predict that the moral manager aspects of ethical leaders create controlled motivation for knowledge sharing (i.e., knowledge sharing being seen as a praiseworthy and normatively appropriate behavior) among employees, which in turn drives employees' knowledge sharing with coworkers because doing so is perceived to be affiliated with potential rewards and/or external approval. Therefore, we hypothesize the following:

Hypothesis 2. *Employee controlled motivation for knowledge sharing mediates the positive relationship between ethical leadership and employee knowledge sharing.*

The Mediating Role of Employee Moral Identity

As a moral person, an ethical leader can also determine individuals' behavior via transformational means. Past research has demonstrated that ethical leaders can transform or shape employees' moral self-construal such as moral identity (Sosik, Chun, & Zhu, 2014; Zhu, Riggio, Avolio, & Sosik, 2011), which in turn encourages their enactment of moral behavior. Moral identity is defined as "a self-conception organized around a set of moral traits" (Aquino & Reed, 2002, p. 1424) that motivates moral conduct and actions responding to others' needs and interests (Aquino, Freeman, Reed, Lim, & Felps, 2009). According to Aquino and Reed (2002), although moral identity concerns a set of moral traits linked to an individual's self-concept, it is malleable to a specific mental image of what an ethical person should believe and how he/she should behave (cf. Cheryan & Bodenhausen, 2000). For example, people may construct their moral self-concept by referring to desirable moral exemplars such as religious leaders, God, presidents, or Red Cross volunteers (Aquino & Reed, 2002; Colby & Damon, 1992).

Ethical leaders are a common social referent that employees look toward for constructing their moral identity (Reed & Aquino, 2003). According to social learning theory (Bandura, 1977, 1986), there are at least two ways in which ethical leadership alters employees' moral identity. In particular, individuals learn how to behave and comply with (moral) norms both vicariously (i.e., by observing others) and directly from their own experience. Hence, we contend that employees develop and shape their moral self-construal through the learning process of a) observing their leaders' moral values and behavior and b) practicing and engaging in moral actions themselves. First, ethical leaders, as moral persons, role model behavior that manifests moral values such as honesty, trustworthiness, social responsiveness, fairness, caring, and openness (Brown et al., 2005). These values echo key moral traits that are conceptualized and validated to activate network mapping onto individuals' moral identity (Aquino & Reed, 2002; Reed & Aquino, 2003; Rupp, Shao, Thornton, & Skarlicki, 2013). Extant research suggests that in organizations leaders may become role models from whom employees learn how to behave (Brown et al., 2005; Choi & Mai-Dalton, 1999; Jung, Chow, & Wu, 2003). By observing the beliefs and behavior exemplified by ethical leaders, employees develop moral concerns and values and learn to engage in moral and socially desirable behavior characterized by genuine concern for others' needs and interests (Schaubroeck et al., 2012). In addition, by engaging in behavior that complies with and upholds ethical standards, employees can obtain a clearer sense of who they are from a moral perspective and learn to demonstrate ethical behavior within an organization (e.g., Mayer, Kuenzi, Greenbaum, Bardes, & Salvador, 2009; Steinbauer, Renn, Taylor, & Njoroge, 2014). For instance, Sosik et al. (2014) show that leaders' values and behavior exert great influence on followers' self-concept, resulting in their assimilation of leaders' moral values and behavior.

Once identity is formed, we expect it to regulate individual behavior. To satisfy their inner needs for maintaining self-consistency, individuals high in moral identity tend to engage in more moral behaviors (Aquino & Douglas, 2003; Aquino et al., 2009; Aquino,

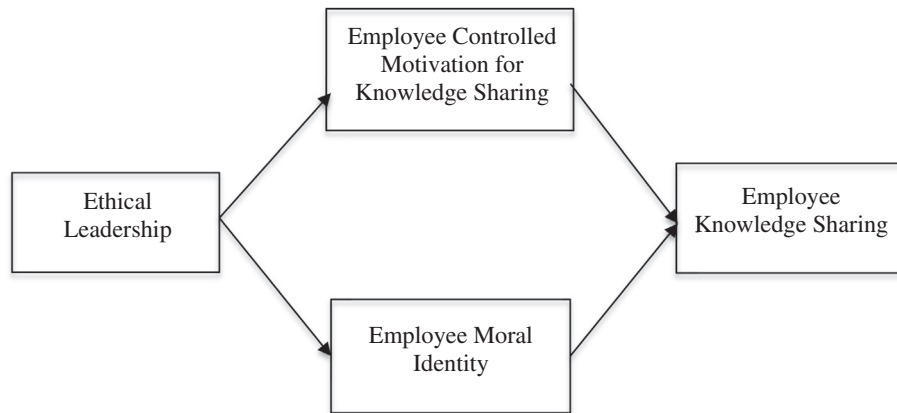


Fig. 1. Theoretical Model.

McFerran, & Laven, 2011; Blasi, 1980, 1993; Shao, Aquino, & Freeman, 2008; Winterich, Aquino, Mittal, & Swartz, 2013). Employees' moral identity therefore guides their actions as they strive for consistency between their self-concept and behavior (Finkelstien, 2009). Past studies show that moral identity plays an essential role in fostering moral and positive conduct that addresses others' needs and interests (Aquino et al., 2009) and discouraging moral transgression that violates the rule of justice and ethics (Bavik & Bavik, 2015; Skarlicki, van Jaarsveld, & Walker, 2008). For instance, Rupp et al. (2013) have found that individuals with higher levels of moral identity are more responsive to organizations' corporate social responsibility initiatives in terms of their job pursuit intentions and organizational citizenship behavior at work. Similarly, Aquino et al. (2011) have showed that people with higher levels of moral identity generally hold more positive views of humanity and engage in more prosocial behavior, due to their heightened experience of moral elevation. Indeed, other studies have also found that knowledge sharing, as a discretionary and morally desirable behavior in organizations (Wang, 2004), could be motivated by individuals' sense of moral obligation (i.e., I share knowledge with a coworker because that is what I believe a moral person should do; Michailova & Hutchings, 2006) and their prosocial motive (i.e., I share knowledge with others because that is what a good citizen in an organization would do; Bock & Kim, 2002; Chang & Chuang, 2011; Yu & Chu, 2007). Therefore, we hypothesize that:

Hypothesis 3. *Employee moral identity mediates the positive relationship between ethical leadership and employee knowledge sharing.*

Fig. 1 depicts our hypothesized model.

Method

Sample and procedures

Full-time employees at several multinational retail companies located in Hong Kong were invited to participate in our study. One of the authors contacted the human resources director of the companies to introduce the research project. The companies agreed to participate on the condition that they received a comprehensive report regarding the findings of the study, and they also asked for several training workshops about human resources management for their middle-level managers. All respondents were assured of the confidentiality of their responses. The surveys were collected during employees' lunch break. To minimize potential common method bias, we collected data from two different sources. First, focal employees reported on their perceptions of their immediate supervisor's ethical leadership, their own moral identity, their controlled motivation for knowledge sharing, and the control variables. Second, one of each focal participant's coworkers on the team was randomly selected and invited to rate the focal participant's knowledge sharing behavior (e.g., Liu, Zhu, & Yang, 2010).

The data collection process lasted nearly three months, and of the 406 paired employee-coworker surveys distributed, 337 matched and completed surveys were returned, yielding a response rate of 83%. The majority of the participants were female (55.8%), with an average age of 24.53 years ($SD = 3.82$) and average tenure of 1.89 years ($SD = 1.66$).

Measures

The survey items were originally developed in English. We translated them into Chinese by strictly following the back-translation procedures (Brislin, 1986). All the items in this study were rated on a five-point Likert-type scale (1 = *strongly disagree*, 5 = *strongly agree*). Appendix A presents the measures we used in our study.

Ethical leadership

Ethical leadership was measured with the ten-item scale from Brown et al. (2005).

Employee moral identity

We measured moral identity using the five-item symbolization scale developed by Aquino and Reed (2002). Symbolization concerns the extent to which individuals manifest their moral values and ethically relevant views through their behavior in interpersonal interactions (Reed, Aquino, & Levy, 2007; Skarlicki & Rupp, 2010). Following Skarlicki and Rupp's (2010) approach, we only measured the public dimension (symbolization) of moral identity, because this dimension is more relevant to our research focus. That is, followers of ethical leaders are likely to socially emulate their moral behavior and convey the instilled moral values externally through *visible* prosocial actions, such as sharing knowledge with peers (cf. Winterich et al., 2013). In particular, participants were first presented with nine traits that have been identified to be the common features of a moral prototype, including caring, compassionate, fair, friendly, generous, helpful, hardworking, honest, and kind. Participants were then instructed to think about a person who has these traits before they rated the related items on the survey.

Employee controlled motivation for knowledge sharing

We adapted the External Regulation Scale from Guay, Vallerand, and Blanchard (2000) to assess participants' controlled motivation for knowledge sharing with three items. In particular, participants were asked to rate the items with the following instruction: "At work, I engage in any act that involves knowledge sharing ...".

Employee knowledge sharing

The knowledge sharing behavior of the focal employees was reported by one of their coworkers using Connelly et al.'s (2012) five-item Knowledge Sharing Scale.

Control variables

Following the recommendation of previous studies (e.g., Connelly et al., 2012; Lin, 2006, 2007; Shi, Johnson, Liu, & Wang, 2013), we controlled for individual variables, including the focal employees' gender, age, and tenure, because these demographic characteristics are likely to influence participants' propensity to share knowledge with others at work. Due to the nested nature of our data, we have also controlled for team size. Prior research suggested that psychological empowerment is an essential motivational factor facilitating knowledge sharing, as it provides employees with a sense of autonomy and potency required for sharing their ideas and experience (Cabrera, Collins, & Salgado, 2006; Srivastava et al., 2006). Thus, we controlled for focal employees' psychological empowerment using the 12-item scale from Spreitzer (1995). Sample items are "I have significant autonomy in determining how I do my job" and "I am self-assured about my capabilities to perform my work activities." Moreover, employees' perceptions of moral clarity, or the degree of ambiguity employees perceive when judging whether behaviors are right or wrong (Wiltermuth & Flynn, 2013, p. 1002), has been suggested to influence employees' ethical decision-making and judgment concerning (im)moral issues at work (Pizarro, 2000; Wiltermuth & Flynn, 2013). Hence, to control for the potential effect of moral clarity on employee knowledge sharing and to demonstrate the explanatory power of the two mediating mechanisms over and beyond moral clarity, we adapted the five items from Wiltermuth and Flynn (2013) by replacing "the actor's behavior" in the original scale with "certain behaviors at work". Sample items include "How certain are you that your classification of certain behaviors at work as either immoral or not immoral is correct?" and "How ambiguous was the morality of certain behaviors at work?".

Analytic strategies

Considering the nested nature of our data, we tested all the hypotheses in the current investigation with multi-level structural equation modeling (MSEM) using Mplus 7.70. We adopted the SEM approach, as it allows simultaneous estimation of multiple indirect paths and provides model fit indices (James & Brett, 1984; James, Mulaiik, & Brett, 2006). Following Anderson and Gerbing's (1988) recommendation, we first tested our hypothesized measurement model, followed by a comparison of the model fit between the baseline model and a few alternative models. Next, the path estimates were obtained for testing each hypothesis in the theoretical model. In addition, we examined the indirect effects using a Monte Carlo simulation procedure.

Results

Table 1 presents the means, standard deviations, alpha reliability coefficients, and correlations of the study variables. The zero-order correlations among the study variables are consistent with our expectations, with ethical leadership ($r = 0.19, p < 0.01$), employee moral identity ($r = 0.15, p < 0.05$), and employee controlled motivation for knowledge sharing ($r = 0.17, p < 0.01$) all being positively related to employee knowledge sharing.

Confirmatory factor analysis

To evaluate the construct validity of the key study variables, we conducted a series of confirmatory factor analyses (CFA). The results demonstrated that the hypothesized four-factor model was a good fit with the data ($\chi^2 = 424.72, df = 224, \chi^2/df = 1.89$,

Table 1
Correlation and Descriptive Statistics^a.

Variables	Mean	Within-team SD	Between-team SD	1	2	3	4	5	6	7	8	9	10	11
Level 1														
1 Age	24.53	3.82	2.66	–										
2 Gender	0.44	0.50	0.27	–0.03	–									
3 Education level	1.46	0.61	0.40	0.06	–0.09	–								
4 Organizational tenure	1.89	1.66	1.07	0.57**	0.09	–0.11*	–							
5 Psychological empowerment	3.67	0.56	0.29	–0.02	0.03	–0.01	–0.05	(0.91)						
6 Moral clarity	3.91	0.61	0.40	–0.05	–0.07	–0.20**	0.05	0.39**	(0.89)					
7 Ethical leadership	3.91	0.60	0.35	–0.06	–0.02	–0.01	–0.05	0.35**	0.17**	(0.89)				
8 Moral identity	3.31	0.66	0.33	–0.04	–0.06	–0.07	–0.01	0.44**	0.32**	0.21**	(0.70)			
9 Controlled motivation for knowledge sharing	3.38	0.86	0.38	–0.02	–0.08	–0.03	0.04	0.12*	0.17**	0.13*	0.12*	(0.73)		
10 Knowledge sharing	4.07	0.63	0.33	–0.03	–0.07	–0.02	–0.01	0.13*	0.10	0.19**	0.15**	0.17**	(0.87)	
Level 2														
11 Team size	7.03	–	3.90	0.08	0.00	–0.06	0.07	0.02	–0.04	–0.04	–0.11*	0.04	0.08	–

Note. ^a Cronbach's alphas are displayed in parentheses along the diagonal;

$N = 337$.

* $p < 0.05$.

** $p < 0.01$.

CFI = 0.97, RMSEA = 0.06, SRMR = 0.05; [Hu & Bentler, 1999]). As can be seen in Table 2, the hypothesized four-factor model fit the data better than all the alternative models.

Common method variance

Although our data were collected from two sources, some of the variables (i.e., ethical leadership, employee controlled motivation, and employee moral identity) were collected from the same source. Thus, it is possible that our data may still be subject to common method biases. To examine if common method variance can bias our results, we conducted a Harman's one-factor model test by including the 18 items collected from the same source (i.e., employees) into one model and comparing its model fit indices with the measurement model. Results show that the one-factor model with all self-rated items combined had a poor fit with the data set ($\chi^2 = 1017.92$, $df = 135$, $\chi^2/df = 7.54$, CFI = 0.81, RMSEA = 0.15, SRMR = 0.13). Hence, we believe that common method variance did not have a significant effect on our data.

Hypothesis testing

Hypothesis 1 predicted a positive relationship between ethical leadership and employee knowledge sharing. MSEM analysis was conducted to simultaneously examine all indirect relationships. In support of our prediction, results of MSEM were presented after controlling for employee gender ($\beta = -0.12$, ns), age ($\beta = -0.01$, ns), education ($\beta = -0.09$, ns), organizational tenure ($\beta = 0.01$, ns), team size ($\beta = 0.01$, ns), employee psychological empowerment ($\beta = -0.10$, $p < 0.01$), and employee moral clarity ($\beta = 0.18$, $p < 0.01$). Fig. 2 presents the path coefficients yielded by MSEM for the overall research model. First, ethical leadership was positively related to both employee controlled motivation for knowledge sharing ($\beta = 0.18$, $p < 0.05$) and employee moral identity ($\beta = 0.24$, $p < 0.01$). Further, both employee controlled motivation for knowledge sharing ($\beta = 0.15$, $p < 0.05$) and employee moral identity ($\beta = 0.13$, $p < 0.01$) were positively related to employee knowledge sharing. In addition, with the presence of employee controlled motivation for knowledge sharing and employee moral identity, the path between ethical leadership and employee knowledge sharing became insignificant ($\beta = -0.04$, ns), indicating a full mediation effect. The above results provided

Table 2
Results of confirmatory factor analyses.

Variable	χ^2	df	χ^2/df	RMSEA	CFI	SRMR
Hypothesized Model (four-factor model)	424.72	224	1.89	0.06	0.97	0.05
Three-factor model (MI and CM combined into one factor)	859.39	227	3.79	0.11	0.90	0.10
Two-factor model (EL, MI, and CM combined into one factor)	1124.85	229	4.91	0.12	0.85	0.11
One-factor model	1859.31	230	8.08	0.17	0.73	0.15

Note. EL = ethical leadership; MI = employee moral identity; CM = employee controlled motivation for knowledge sharing; KS = employee knowledge sharing; RMSEA = root-mean-square error of approximation (RMSEA values equal to or < 0.05 indicates good fit; RMSEA values between 0.05 and 0.08 indicates fair fit); CFI = comparative fit index (CFI values > 0.90 indicates good fit); SRMR = standardized root mean squared residual (SRMR values equal to or < 0.05 indicates good fit).

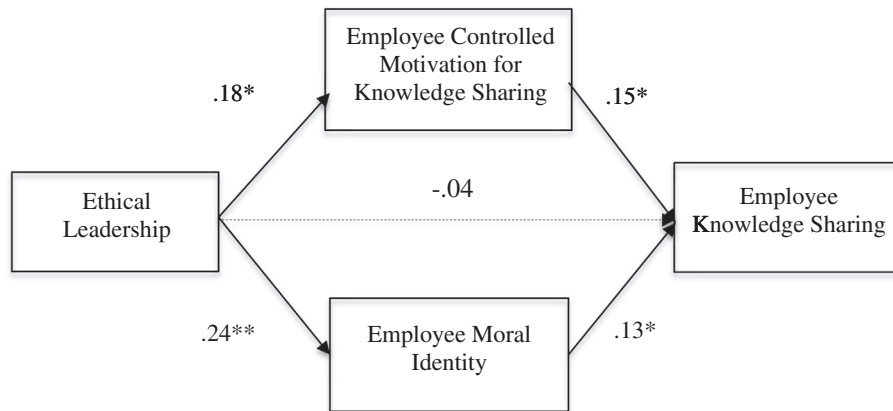


Fig. 2. Path Coefficients of the Hypothesized Relationships.

initial support for the mediating roles of employee controlled motivation for knowledge sharing and their moral identity in the ethical leadership–employee knowledge sharing linkage specified in [Hypotheses 2 and 3](#).

To further and directly examine our proposed mediation effects, we performed bootstrapping procedures using Monte Carlo simulation techniques ([Preacher & Hayes, 2008](#); [Preacher, Zyphur, & Zhang, 2010](#)). With 20,000 replications, we found that the indirect effect of ethical leadership on employee knowledge sharing through employee controlled motivation for knowledge sharing was 0.03, with a 95% bias-corrected bootstrap confidence interval of [0.0003, 0.07], which does not contain zero. Thus, the mediating effect of employee controlled motivation for knowledge sharing proposed in [Hypothesis 2](#) was supported. Further, the 20,000 resamplings showed that the indirect effect of ethical leadership on employee knowledge sharing via employee moral identity was 0.03, with a 95% bias-corrected bootstrap confidence interval of [0.002, 0.07], again not containing zero, and thus providing support for [Hypothesis 3](#). Results of MSEM showed that all of our hypotheses received support.

Discussion

Our study is among the first to examine the effects of ethical leadership on employees' knowledge sharing behavior at work. Based on self-determination and social learning theories, our study demonstrated *whether* and *how* ethical leadership influences employees' knowledge sharing. Specifically, our findings indicate that ethical leadership matters in terms of employees' knowledge sharing behavior. Moreover, both employee controlled motivation for knowledge sharing and employee moral identity were found to serve as the mediating mechanisms that account for the effect of ethical leadership on employee knowledge sharing. Our findings have important theoretical and managerial implications.

Theoretical contributions

First, our research uses a moral lens to examine the role of ethical leadership in shaping employees' knowledge sharing behavior. Although prior studies have found that ethical leadership is significantly related to risk-taking and prosocial behavior among employees, such as employee voice, creativity, and organizational citizenship behavior (e.g., [Newman et al., 2014](#); [Tu & Lu, 2014a, 2014b](#)), investigation of its effect on employees' knowledge sharing is surprisingly scarce. Knowledge sharing is inherently a risk-taking and prosocial behavior that contains a moral element, because it implies the loss of proprietorship of one's know-how and the diminishing of competitiveness for the good of others ([Spender & Grant, 1996](#)). Our findings demonstrate that ethical leadership matters in fostering knowledge sharing among employees. This finding provides further support that knowledge sharing has moral relevance. Future research can take a moral perspective to examine other possible antecedents of knowledge sharing at work.

Second, while majority of past studies on ethical leadership rely upon theoretical perspectives such as social exchange theory (e.g., [Mo & Shi, 2015](#); [Newman et al., 2014](#)) and social identity theory (e.g., [DeConinck, 2015](#); [Zhu et al., 2015](#)) to explain the effect of ethical leadership on employee behavior, we have integrated self-determination and social learning theories to examine two theoretically plausible explanations for the effects of ethical leadership on knowledge sharing among employees. Specifically, our study sheds light on the dual-regulation mechanisms of ethical leadership by demonstrating that employees pursue prosocial and moral behavior (e.g., knowledge sharing) not only out of desire for reward and fear of punishment (i.e., controlled motivation), but also because they reconstruct their self-construal (i.e., moral identity) and explicitly symbolize their moral self-construal through moral actions. This finding corroborates the original theoretical conceptualization of ethical leadership ([Treviño, Brown, & Hartman, 2003](#); [Treviño, Hartman, & Brown, 2000](#)), which describes an ethical leader as both a *moral manager* who actively reinforces external regulation and a *moral person* who transforms employees' self-concept via role modeling behavior that manifests his/her moral beliefs. In short, our study provides a more complete account of how the moral person and moral manager dimensions concurrently exert significant influence on employee behavior. In doing so, we provide empirical evidence that confirms the theoretical conceptualization of ethical leadership, in which we underscore the equal importance of a leader being both moral person and moral manager to

motivate employees to act prosocially (e.g., [Brown & Mitchell, 2010](#); [Treviño et al., 2003, 2000](#)).

Third, our results indicate that employee controlled motivation and moral identity are equally important for motivating knowledge sharing among employees. This result further reinforces the long-held notion of ethical leadership as a value-based leadership style ([Den Hartog, 2015](#)). Through being a genuinely ethical role model, an ethical leader's values are identified and symbolized by followers. Moreover, our findings show that controlled motivation is associated with a level of explanatory power similar to moral identity in the ethical leadership-employee knowledge sharing relationship, which is consistent with [Ryan and Deci's \(2002\)](#) argument that extrinsic objectives are not necessarily inferior to internal driving force in promoting individuals' behavior (cf. [Finkelstien, 2009](#)). In short, our findings to a large extent support the effectiveness of the dual mechanisms implied by the ethical leadership concept in shaping followers' attitude and behavior. Our theoretical model connects the leadership, knowledge management, identity, and motivation literatures in a meaningful way and highlights the importance for future research to interpret the implications of ethical leadership in light of its internal and external influence on others' motivation and identity.

Practical implications

Our study provides valuable insights into how organizations might promote knowledge sharing behavior that transcends personal interests among employees. First, our study shows that ethical leaders play an active role in motivating knowledge sharing among employees. To increase knowledge sharing at work, managers may want to engage in concurrent reward and punishment programs to promote ethical behavior, and practice ethical role modeling to motivate employees to behave in a way that takes others' interests into consideration. Given the importance of ethical leadership in increasing knowledge sharing in the workplace, organizations might cultivate ethical leadership by offering training programs to leaders, emphasizing the importance of moral principles, and providing examples of ethical conduct that leaders should manifest in their daily behavior and management policies. Moreover, managers should be aware that external regulation is sometimes just as important as internal regulation in driving knowledge sharing behavior in organizations. Therefore, managers should make sure that reward and punishment programs are consistently implemented to regulate employee knowledge sharing at work.

Limitations of this research

Our contributions and implications should also be interpreted in light of some limitations. First, in the present research, we focused on controlled motivation for knowledge sharing as a driving force in shaping individuals' knowledge sharing behavior at work. We focus on this type of motivation because it is conceptually consistent with the moral manager aspect of ethical leadership. We do not know if other types of motivation in the self-determination paradigm might play similar roles in our proposed relationships. In addition, our results demonstrate that the effect sizes of the hypothesized relationships among ethical leadership, employee controlled motivation for knowledge sharing, employee moral identity, and employee knowledge sharing are moderate, indicating that there might be other factors accounting for the variance in employee knowledge sharing. Another limitation of our study is that it incorporates a cross-sectional design, which limits our ability to make strong causal inferences among the variables in the theoretical model. Maxwell and colleagues stress that cross-sectional data may be biased because they fail to address the autoregressive effects of mediators on dependent variables ([Maxwell & Cole, 2007](#); [Maxwell, Cole, & Mitchell, 2011](#)). Finally, the fact that our data were collected from retail industry may limit our ability to generalize our findings to companies in other industries. Although our research context may help us to "control for confounding variables across companies and across industries," there are caveats when generalizing our results to other industries ([Zhang & Bartol, 2010, p. 870](#)), as the retail industry is known for its rapid turnover rate and on-going changes. However, this type of company may nonetheless serve as a meaningful research context for this kind of study due to its strong need for employees to uphold customer satisfaction by engaging in prosocial behavior such as knowledge sharing ([DeConinck, 2015](#); [Dietz, Pugh, & Wiley, 2004](#)).

Directions for future research

To address the limitations of the present study and to improve our understanding of the role of ethical leadership in employee knowledge sharing, future research may include other motivation types (e.g., introjected motivation, identified regulation, and moral motivation; [Deci & Ryan, 2000](#); [Gagné & Deci, 2005](#); [Hardy, 2006](#)) and examine their differential roles in the relationship between ethical leadership and knowledge sharing.

Second, past reviews ([Brock et al., 2005](#); [Ipe, 2003](#); [Wang & Noe, 2010](#)) suggested that knowledge sharing depends on both individuals' motivation for strengthening their relationship with recipients (e.g., trust) and environmental opportunities (e.g., policies, communication system, cultural characteristics) that enable people's sharing of expertise. Thus, future research can look into various relational and individual characteristics of both transferors and recipients ([Szulanski, 1996](#); [Szulanski et al., 2004](#)) and examine their influence on knowledge sharing.

Relatedly, to further examine the predictive validity of ethical leadership, future research should control for established predictors of knowledge sharing (e.g., psychological safety, perceived justice, trust; [Brock et al., 2005](#); [Ipe, 2003](#)) and other leadership styles (e.g., transformational leadership and passive leadership; [Kelloway, Mullen, & Francis, 2006](#)), and assess if ethical leadership can predict knowledge sharing via the two identified mechanisms above and beyond these established effects. In short, to provide a more complete picture of the knowledge sharing process, future studies need to consider a broader range of determinants.

In addition, although our results suggest that employee controlled motivation and employee moral identity are equally important

in promoting employee knowledge sharing, the explanatory power of these two mechanisms may depend on specific situational characteristics. Prior research has found that individual employees possess different perceived boundaries between in-role and extra-role responsibilities (Morrison, 1994). For instance, when knowledge sharing is explicitly specified in a formal job description or there is high task interdependence among team members, the predictive power of ethical leadership and individuals' moral identity in knowledge sharing may be weakened. Therefore, factors such as job characteristics and task interdependence may moderate the indirect effect of ethical leadership on employee knowledge sharing. Other factors associated with the characteristics of knowledge may also influence the likelihood of individuals openly sharing their intellectual assets (Osterloh & Frey, 2000). The literature on knowledge management has differentiated explicit knowledge from tacit knowledge. According to Nonaka and colleagues, explicit knowledge refers to objective knowledge that can be articulated, codified, and easily expressed in formal language and documents, while tacit knowledge is subjective knowhow that is much more challenging to formalize, articulate, and communicate to others (Nonaka, 1994; Nonaka, Toyama, & Konno, 2000; Huang et al., 2014). Knowledge acquired with heavy investment of time and effort may in turn become more "sticky" (Szulanski, 2000), lessening employees' willingness and motivation to share it with coworkers. Hence, future research can explore the role of various boundary conditions (e.g., the content/type of knowledge, whether knowledge sharing is considered an in-role vs. extra-role duty) that might qualify our theoretical model.

To address limitations pertinent to our cross-sectional design, future studies should replicate our results with longitudinal data and experiments to more effectively rule out alternative explanations for relationships among variables of interest. Longitudinal design may further advance our understanding about the temporal stability of motivational constructs and the potential reciprocal relationship between employee motivations and their desirable behaviors in the context of ethical leadership (Howard, Gagné, Morin, & Van den Broeck, 2016). In addition, future research can replicate our findings in different industries (e.g., consulting firms, financial institutions, universities, or manufacturing firms), in which employees might experience more or fewer knowledge sharing requests from their colleagues, to better assess the generalizability of our findings to other research contexts.

Although the current study investigates the underlying processes through which ethical leadership transforms into employee knowledge sharing, it is possible that the mediated relationships are subject to other boundary conditions. For example, past research shows that both the individual characteristics of employees, such as the moral attentiveness (e.g., van Gils et al., 2015), and contextual factors such as the supportiveness of organization and managers (Chuang, Jackson, & Jiang, 2016; Pieterse, van Knippenberg, Schippers, & Stam, 2010) can influence employees' propensity to engage in (im)morally and/or socially (un)desirable behaviors in response to leader behavior. Therefore, future research may further examine the conditions in which ethical leadership has the most significant and positive influence on employee knowledge sharing.

Last, in the present research, we focus on employees' knowledge sharing with coworkers because of its moral relevance and its positive implications for firm functioning. While the directions of knowledge sharing in the workplace might typically flow from top to bottom or horizontally (e.g., sharing among peers), future research can explore whether ethical leadership can also promote employees' knowledge sharing with their leaders. In addition, in contrast to knowledge sharing, employees sometimes hide knowledge for various reasons (e.g., protecting clients' confidentiality, retaining one's own competitiveness in the team or organization, avoiding additional work duties). Thus, knowledge hiding may or may not involve an ethical element, depending on whether the actor does so to deceive others for reasons of self-interest or engages in it for prosocial reasons. In view of its complex nature, future research can further explore the antecedents of knowledge hiding and offer additional insights on why employees decide to share or to intentionally hide knowledge from others.

Conclusion

Integrating self-determination and social learning theories, this study has examined the ethical leadership process underpinned by two different regulatory mechanisms. The results of our study reveal that ethical leadership is an effective way to cultivate knowledge sharing among employees through the use of both external and internal regulations. Our research provides initial empirical evidence supporting the theoretical conceptualization of ethical leadership as a dual-pillar construct. These findings underscore the importance of leaders' being both a *moral person* and *moral manager* in constructing effective ethical leadership and motivating resource sharing among employees. Our research extends the current literature on ethical leadership and knowledge sharing, and catalyzes future research to examine additional mediating mechanisms and the boundary conditions of the relationship between ethical leadership and knowledge sharing.

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Appendix A. Appendix 1

Measures of key variables

Ethical Leadership (Brown et al., 2005)

1. My supervisor listens to what employees have to say.

2. My supervisor disciplines employees who violate ethical standards.
3. My supervisor conducts his/her personal life in an ethical manner.
4. My supervisor has the best interest of employees in mind.
5. My supervisor makes fair and balanced decisions.
6. My supervisor can be trusted.
7. My supervisor discusses business ethics or values with employees.
8. My supervisor sets an example of how to do things the right way in terms of ethics.
9. My supervisor defines success not just by results but also the way that they are obtained.
10. When making decisions, my supervisor asks “what is the right thing to do”?

Employee controlled motivation for knowledge sharing (adapted from Guay et al., 2000)

At work, I engage in any act that involves knowledge sharing...

1. Because I am supposed to do it.
2. Because not withholding knowledge is something that I have to do.
3. Because I don't have any choice.

Employee moral identity (Aquino & Reed, 2002)

Instruction: Listed below are some characteristics that might describe a person:

Caring, Compassionate, Fair, Friendly, Generous, Helpful, Hardworking, Honest, Kind

The person with these characteristics could be you or it could be someone else. For a moment, visualize in your mind the kind of person who has these characteristics. Imagine how that person would think, feel, and act. When you have a clear imagine of what this person would be like, answer the following questions:

1. I often wear clothes that identify me as having these characteristics.
2. The types of things I do in my spare time (e.g. hobbies) clearly identify me as having these characteristics.
3. The kinds of books and magazines that I read identify me as having these characteristics.
4. The fact that I have these characteristics is communicated to others by my membership in certain organizations.
5. I am actively involved in activities that communicate to others that I have these characteristics.

Employee knowledge sharing (Connelly et al., 2012)

1. This coworker looks into my requests to make sure his/her answers were accurate.
2. This coworker explains everything very thoroughly.
3. This coworker answers all my questions immediately.
4. This coworker tells me exactly what I need to know.
5. This coworker goes out of his/her way to ensure that he/she understands my requests before responding.

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