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EXPLORING THE CONSEQUENSES OF KNOWLEDGE HIDING: AN AGENCY THEORY PERSPECTIVE

Violetta Khoreva

Department of Management and Organization, Hanken School of Economics,Vaasa, Finland,

and

Heidi Wechtler

Faculty of Business and Law, Newcastle Business School, University of Newcastle, Callaghan, Australia

Abstract

Purpose: The purpose of the study is to explore empirically the consequences of knowledge hiding at the individual level and from the knowledge hiding committers' perspective. Hence, in line with agency theory and prior literature on knowledge hiding, the study investigates the associations between different facets of knowledge hiding and individual-level job performance, as well as the mediating role of employee well-being in the associations.

Design: Structural equation modelling was used to analyze multi-source survey data from a sample of 214 employees and 34 immediate supervisors, in a professional services company in Finland.

Findings: Evasive hiding was found to be negatively associated with in-role job performance and positively associated with innovative job performance. Playing dumb was found to be positively associated with in-role job performance. Finally, even though the association between rationalized hiding and innovative job performance was found to be positive, it was found to be of a smaller magnitude when employee well-being was taken into account.

Practical implications: Forceful unhealthy competition as well as exploitative and workaholic cultures are discussed to reduce knowledge hiding behavior among employees and their negative consequences.

Originality: The study highlights the paradox of managing organizational knowledge. In line with agency theory, we advocate that while knowledge sharing is one of the major assets of organizational welfare from the organizational perspective, it may resonate with the employee's perspective. Consequently, unless employees' self-interest and organizational interests are aligned, the paradox of managing organizational knowledge arises, and the classic agency problem occurs.

Introduction

In early summer 2010, a former President of the United States, Barack Obama, described the Deepwater Horizon oil spill as “the worst environmental disaster America has ever faced” (CNN, 2010). Taking the lives of 11 rig workers and injuring 17 others, the Gulf of Mexico incident has been depicted as the largest marine oil spill in the history of the petroleum industry. Two years after the tragedy, the justice department filed a number of criminal charges against several British Petroleum (BP) employees. These charges included obstructing justice by deleting messages showing BP knew the flow rate was higher than the company initially claimed; obstructing Congress by misrepresenting the rate at which oil was flowing from the well; and, instructing several employees to delete data related to the cementing job (Fowler, 2012; Goldenberg and Rushe, 2012). This case highlights the fact that several BP employees did not share all the knowledge they possessed. Instead, when information was requested, they deliberately concealed

some knowledge from their peers. In the research literature, this phenomenon refers to knowledge hiding as "an intentional attempt to conceal or withhold knowledge that others have requested" (Černe *et al.*, 2014, p. 173).

Knowledge hiding first attracted the attention of organizational sociologists and anthropologists in the 1960s (e.g., Mechanic, 1962). More recently, research has focused on knowledge hiding in an organizational context (Černe *et al.*, 2014; Černe *et al.*, 2017; Jha and Varkkey, 2018; Serenko and Bontis, 2016; Škerlavaj *et al.*, 2018). To this end, at the organizational level, knowledge hiding has been found to limit productive knowledge transfer in organizations, harm organizational functioning (Gagné, 2009), lead to a negative spiral of retaliation (Černe *et al.*, 2014), hinder unit performance (Steinel *et al.*, 2010), undermine organizational creativity and productivity (Connelly *et al.*, 2012), and reduce the potential for growth and effectiveness (Haas and Park, 2010). Furthermore, at the individual level, knowledge hiding has been revealed to enhance interpersonal distrust (Connelly *et al.*, 2012; Černe *et al.*, 2014), decrease knowledge hiding committers' creativity (Černe *et al.*, 2014), and isolate employees from the social network of mutual idea exchange (Connelly *et al.*, 2012; Rhee and Choi, 2016). Conversely, some types of knowledge hiding have been found to enhance the relationships between colleagues and break the cycle of knowledge hiding in organizations (Connelly and Zweig, 2015).

Despite burgeoning interest in knowledge hiding, to the best of our knowledge, the association between knowledge hiding and knowledge hiding committers' individual-level job performance has not been previously studied. This is a serious omission, since investigating the association from the knowledge hiding committers' perspective could reveal new explanations for the phenomenon and, consequently, clarify the failure of knowledge sharing initiatives in organizations (Černe *et al.*, 2014).

Against this backdrop, our study aims to empirically explore the consequences of knowledge hiding at the individual level, and from the knowledge hiding committers' perspective. The contribution of our study is two-fold. First, in line with agency theory (Eisenhardt, 1989), we extend the existing research literature on knowledge hiding by examining the association between knowledge hiding and individual-level job performance. We advocate that those who possess knowledge not only have discretion as to what knowledge they share or conceal, but also are motivated to exercise that discretion in a way that maximizes their own individual performance, despite organizational norms designed to encourage cooperation and knowledge sharing. We argue that employees might at times take actions that are self-enhancing but organizationally harmful, hiding knowledge in order to win short-term victories in terms of enhanced individual performance. Furthermore, we investigate the associations between three different facets of knowledge hiding (i.e., rationalized hiding, evasive hiding, playing dumb) and individual-level job performance, since future research has been encouraged to study specific types of knowledge hiding rather than focus on general knowledge-hiding behavior (Connelly *et al.*, 2012, Černe *et al.*, 2017).

Our second contribution relates to distinguishing the role of employee well-being in the association between knowledge hiding and individual-level job performance. Despite most people's tendency to perceive themselves as honest and altruistic (Connelly and Zweig, 2015), it may be difficult for those who hide knowledge to maintain their well-being at the same time. We thus advocate that employee well-being decreases decelerates the positive association between knowledge hiding and individual-level job performance.

Theoretical background

Knowledge Hiding and its Facets

Knowledge hiding has been treated as separate from knowledge hoarding (Evans *et al.,* 2015), workplace bullying (Samnani *et al.,* 2014), and employee silence (Knoll and van Dick, 2013). Knowledge hiding is also seen as conceptually different from counterproductive workplace behavior, interpersonal aggression, social undermining, and incivility (Connelly *et al.,* 2012). It does not include cases where an employee fails to share knowledge by mistake or by accident. In essence, knowledge hiding represents the intentional concealment of knowledge requested by another. Hence, the distinctive features of knowledge hiding are its intentional nature and the broader scope of possible methods of engaging in the practice (Connelly *et al.,* 2012).

Knowledge hiding is a multidimensional construct, triggered by specific motives, rather than a unitary concept (Connelly *et al.,* 2012). The three facets of knowledge hiding involve rationalized hiding, evasive hiding, and playing dumb. Rationalized hiding occurs when an employee explains why the knowledge s/he is asked for is not delivered on request. It involves justifications employees provide for why they hide information (Connelly *et al.,* 2012). For example, an employee asks a coworker for a copy of a report, and the coworker replies the report is confidential and s/he will therefore not disclose it. In this case, the requested knowledge is not forthcoming, even though no deception is involved. Positive intentions can be associated more strongly with rationalized hiding than with the other types of knowledge hiding (Connelly and Zweig, 2015).

While playing dumb occurs when the person pretends not to have the knowledge or to be ignorant of the relevant information (Connelly *et al.,* 2012), evasive hiding occurs when the person hesitates and postpones knowledge delivery or provides less information than requested. It also occurs when employees provide incorrect information or a misleading promise of a complete answer in the future, even though they intend to conceal it (Connelly *et al.,* 2012). For example,

following a request, the colleague provides some, but not all, of the requested knowledge. In this case, dishonesty may be involved (but not necessarily).

Job Performance and its Facets

Individual-level job performance is a broad and complex construct with two fundamentally different aspects, namely, in-role job performance assigned by an organization, and innovative job performance, which is a more spontaneous, unstructured work behavior (Katz, 1964; Khoreva and Wechtler, 2018). In-role job performance is defined as "actions specified and required by an employee's job description and thus mandated, appraised, and rewarded by the employing organization" (Janssen and Van Yperen, 2004, pp. 369-370). In-role job performance ensures work behavior is predictable, and that basic organizational tasks are synchronized and regulated to accomplish organizational objectives (Janssen and Van Yperen, 2004; Khoreva and Wechtler, 2018).

Innovative job performance is defined as "the intentional generation, promotion, and realization of new ideas within a work role, work group, or organization in order to benefit role performance, a group, or an organization" (Janssen and Van Yperen, 2004, p. 370). This type of performance is a complex and challenging assignment involving a variety of cognitive and social actions, such as generating, promoting, discussing, modifying, and eventually implementing creative ideas (Janssen and Van Yperen, 2004; Khoreva and Wechtler, 2018). Innovative job performance focuses on developing and applying something new, for which the necessary knowledge and strategies have yet to be acquired and learned. Innovative job performance encompasses change that can cause resistance because of the insecurity and uncertainty it may generate (Jones, 2001).

Knowledge Hiding and Job Performance

Agency theory provides a useful lens to understand how knowledge hiding committers' behavior can be positively associated with their enhanced individual job performance. The theory uncovers a classic agency problem, where the desires of the agent (the employee) and the principal (the organization) conflict (Eisenhardt, 1989). In line with agency theory, it may be argued that while the transfer and integration of knowledge is supposed to create the greatest value for the organization, this very knowledge becomes more valuable and relevant to individual employees, and, may thus lead to enhanced short-term individual performance.

Several arguments are relevant in explaining this association. First, knowledge is a critical resource within organizations, and employees who conceal knowledge may increase other actors' dependence on the knowledge the concealer possesses and provides (Evans *et al.,* 2015). Knowledge hiding may increase employees' bargaining power and influence in the organization (Evans *et al.,* 2015). Next, hiding knowledge from certain organizational members may enable employees to exert superior influence over goal-setting and resource allocation. Finally, employees holding proprietary knowledge may grow their information networks and create disproportionate value for the organization over time by hiding that knowledge (Lepak *et al.,* 2003). Consequently, in owning and manipulating knowledge, and engaging in knowledge hiding, employees may win short term battles in the form of enhanced individual performance, that is, in-role and innovative job performance. We thus posit that a dependence on individual knowledge channels to facilitate knowledge sharing may allow knowledge hiding to become a potentially valuable strategy for employees seeking to heighten their individual-level job performance:

H1. Knowledge hiding, that is, rationalized hiding, evasive hiding, and playing dumb, is positively associated with individual-level job performance, that is, in-role and innovative job performance.

Well-being and Job Performance

Well-being is a complex construct, defined as "a function of the actual conditions of [one's] life and what an individual makes of those conditions" (Michalos, 2008, p. 349). One facet of well-being is eudaimonic well-being, which reflects self-discovery, perceived development of one's own highest potentials, a sense of purpose and meaning in life, intense participation in activities, investment of significant effort, and enjoyment of activities as expressions of oneself (Ryff, 1989). In this study, we focus on the eudaimonic facet, since it expresses employees' goals, intentions, and a sense of direction, which all contribute to the feeling that life is meaningful and proper (Waterman *et al.,* 2010).

Well-being may color work as more exciting, rewarding, stimulating, and enjoyable, and allow employees to experience positive emotions (Bakke, 2005). It may enable employees to flourish and achieve their full potential, benefiting themselves and their organization (Tehrani *et al.,* 2007). At work, well-being helps promote a stable and efficiently functioning organization (Boddy, 2014). It has been found to predict increased job performance (Wright and Cropanzano, 2004; Wright and Bonett, 2007). In the light of the preceding arguments, we believe employee well-being is likely to introduce change into the organizational climate, making room for progressive practices, which can produce positive employee outcomes including enhanced individual-level job performance:

H2. Employee well-being is positively associated with individual-level job performance, that is, in-role and innovative job performance.

Knowledge Hiding, Well-being and Job Performance

Social pressures and intense competition may force employees to act in ways that resonate with their own ethical standards. While in some organizations information sharing appears to be necessary and expected, and knowledge hiding is thus considered an unacceptable social norm in workplace behavior, in other organizations employees may conceal knowledge for self-interest and prosocial reasons, and knowledge hiding may thus be a less unacceptable norm (Umphress and Bingham, 2011). In highly competitive organizations (i.e., up or out culture, publish or perish culture), employees may strategically conceal knowledge, either to maximize their own value or act in accordance with institutional norms (Haas and Park, 2010; Steinel *et al.*, 2010). Furthermore, even without specific situational pressures, employees may sometimes deliberately violate their own standards of behavior, harming their well-being in the process (Giacalone *et al.*, 2016).

Through engaging in knowledge hiding, employees may experience psychological distress and exhaustion and as a result of concealing knowledge (Connelly and Zweig, 2015; Giacalone *et al.*, 2016). It may thus be problematic for these employees to maintain their well-being while engaging in knowledge hiding. Hence, while we suggest that knowledge hiding is positively associated with short-term individual-level job performance, we also advocate that employee well-being decreases, or in other words decelerates, the positive association between knowledge hiding and individual-level job performance. We thus posit the following:

H3. Knowledge hiding, that is, rationalized hiding, evasive hiding, and playing dumb, is negatively associated with employee well-being.

H4. Employee well-being partially mediates the association between knowledge hiding, that is, rationalized hiding, evasive hiding, and playing dumb, and individual-level job performance, that is, in-role and innovative job performance.

Method

Data collection and sample

This study was conducted within a professional services company in Finland. The data were collected by the research team as part of a more general survey of international human resource management. Meetings were scheduled to inform the participants about the initiatives for knowledge sharing in the organization, to emphasize confidentiality, and to distribute questionnaires. All participants received questionnaires, which were filled out during work time and returned via the internal mail system.

We used multi-source data based on an assessment of who is best placed to evaluate a variable. Knowledge hiding is essentially difficult for others to observe accurately (Connelly and Zweig, 2015). That said, DePaulo *et al.* (1982) claimed that people tell on average one or two lies daily, and Turner *et al.* (1975) found that people lie in about two-thirds of their conversations. People may perceive lies where none have actually been told (Elaad, 2003). Thus, given that people lie more frequently than we might expect and often perceive lies where none have been presented (Jehn and Scott, 2008), examining the employees' perceptions of knowledge hiding is likely to produce the greatest accuracy, rather than attempting to find an objective assessment (Connelly and Zweig, 2015). The employees themselves are urged to report variables related to knowledge hiding, and assess their well-being (Knoll and van Dick, 2013; Waterman *et al.*, 2010). In this study, we thus investigate the extent to which employees conceal knowledge, and the extent of their well-being, by questioning the employees themselves. Managerial informants come into play

where performance outcomes are included as dependent variables in a study (Boxal *et al.,* 2016; Khoreva and Wechtler, 2018). We therefore examine individual-level job performance based on the responses of employees' immediate supervisors.

The questionnaire was distributed to four-hundred and forty-seven employees, of whom 47% completed the questionnaire in full, generating a final sample of 214 respondents, rated by 34 supervisors. The participants' mean age was 37 years (SD = 7.2), 46% were female, 5% had been with the company for less than six months, 29% for seven months to two years, 41% for three to five years, 16% for six to ten years, and 9% for more than ten years. All participants had a Master's degree or above. Unit size varied from less than 12 employees (26%), to 12–25 (36%), and more than 25 (38%).

Measures

Unless otherwise specified, the items for the scales were scored on a seven-point Likert scale (1 = strongly disagree to 7 = strongly agree).

Following Černe *et al.* (2014) and Škerlavaj *et al.* (2018), *knowledge hiding* was self-reported and assessed on a twelve-item scale developed by Connelly *et al.* (2012). The scale opened with the following description: "In a specific episode in which a particular coworker requested knowledge from you and you declined …". It is composed of three dimensions: rationalized hiding (4 items, sample item: "*I said that I would not answer his/her questions*," $\alpha = 0.94$), evasive hiding (4 items, sample item: "*I agreed to help him/her but never really intended to*," $\alpha = 0.90$), and playing dumb (4 items, sample item: "*I pretended I did not know what s/he was*

talking about," α = 0.94). The three measured dimensions fit our data well[1] (GFI = 0.986, AGFI = 0.978, NFI = 0.981, RMSEA = 0.067, see Williams & O'Boyle, 2011).

Well-being was measured by the seven-item eudaimonic well-being scale developed by Waterman (1993) and empirically operationalized by Knoll and van Dick (2013). A sample item was: "*I live life one day at a time and don't really think about the future*." α = .96.

Following Janssen and Van Yperen (2004), *in-role job performance* was measured on a five-item scale developed by Podsakoff and MacKenzie (1989). The respondent's immediate supervisor indicated the extent to which they agreed or disagreed with five statements about the quality and quantity of the employee's in-role activities (α = .97). A sample item was: '*This employee always completes the duties specified in his/her job description*.' *Innovative job performance* relied on Kanter's work (1988) on the stages of innovation, and was measured on a nine-item scale operationalized by Janssen and Van Yperen (2004). The respondent's immediate supervisor indicated how often their subordinate performed the nine innovative work behaviors in the workplace (α = .97). A sample item: '*Creating new ideas for improvements'*.

We ran a confirmatory factor analysis with six latent variables representing rationalized hiding, evasive hiding, playing dumb, well-being, in-role and innovative job performance. It generated $\chi 2 = 1035.77$ (df = 480), $p < 0.001$. The goodness-of-fit indices showed a good fit to the data (RMSEA = 0.063, GFI = 0.979, AGFI = 0.976; see Dilalla, 2000; O'Rourke and Hatcher, 2013).

[1] Note. GFI and NFI: General and Normed fit index, expected to be > 0.95. RMSEA: root mean square error of approximation, expected to be < 0.08. See Williams & O'Boyle (2011) for presentation.

Control variables. Our model was controlled for gender, operationalized as a dummy variable (1 = male, 0 = female); age, ranging from 27 years to 58 years; and newcomer, operationalized as a dummy variable (1 = organizational tenure less than 6 months, 0 = otherwise).

Common method variance. To ensure the interpretability of our results, we first examined common method variance (CMV), the potential risk that comes with cross-sectional data collection (Podsakoff *et al.*, 2003). We conducted the Harman's single-factor test, and analyzed the unrotated factor solution of the six concept items involved in our model, in an exploratory factor analysis. Six factors had an eigenvalue superior to 1, and the degree of variance explained by the first factor was 37%, substantially below the 50% threshold (Podsakoff *et al.*, 2003). Furthermore, we tested a one-factor model and a measurement model with an additional unmeasured latent method construct (ULMC), to evaluate the items suspected of CMV contamination (Williams and McGonagle, 2016). All items were associated with both their theoretical concept and the ULMC (ULMC has no unique items of its own). The ULMC model showed a non-significant change in fit (ΔNFI = 0.006), whereas the one-factor model had a significantly poorer fit (ΔNFI = -0.254). In sum, we were able to conclude that common method variance was not a significant issue for these data.

Findings

Means, standard deviations and correlations are displayed in Table 1. The results of the hypothesized model tests are discussed below and illustrated in Table 2.

Tables 1 and 2 about here

We ran the structural model to test our hypotheses. As recommended by Enders and Tofighi (2007), level 1 variables were group-mean centered while level 2 variables were grand-mean centered. The measurement models fit the data well (χ^2 = 70.8353, df = 11, RMSEA = 0.087, GFI = 0.978, AGFI = 0.974). The model was controlled for control variables. The standardized coefficients – representing the effect sizes (Kline, 2004) – are shown in Figure 1 and can be interpreted as follows. First, while evasive hiding was negatively related to in-role job performance (b = -0.17, p < 0.05), playing dumb was positively related to in-role job performance (b = 0.11, p < 0.05). No significant relationship was found between rationalized hiding and in-role job performance. A positive and significant effect was found for both evasive hiding (b = 0.11, p < 0.05) and rationalized hiding (b = 0.22, p < 0.01) on innovative job performance. Therefore, Hypothesis 1 was partially supported.

Figure 1 about here

Second, we tested the direct effects of employee well-being on job performance. While employee well-being had no significant association with in-role job performance, it was positively and significantly associated with innovative job performance (b = 0.34, p < 0.01). Therefore, Hypothesis 2 was partially supported.

Next, we tested the direct effects of knowledge hiding on employee well-being. While rationalized hiding was negatively and significantly associated with employee well-being (b = -0.23, p < 0.05), evasive hiding had no significant association with it, and playing dumb was positive and marginally significant (b = 0.17, p < 0.10). Thus, Hypothesis 3 was partially supported.

Finally, we tested the mediating role of employee well-being in the associations between knowledge hiding and job performance. In order to interpret the mediating role of employee well-being in detail, we followed Baron and Kenny's (1986) guidelines, which were complemented by Zhao *et al.'s* (2010) decision tree that proposes three types of mediation (complementary, competitive, indirect-only), and two types of non-mediation (direct only, no effect). While no mediations were found for most of the associations, we did identify competitive mediation between rationalized hiding, employee well-being and innovative job performance. In particular, rationalized hiding had a negative and significant indirect effect on innovative job performance through employee well-being ($b = -0.08$, $p < 0.05$); even though the total effect of rationalized hiding on innovative job performance was still positive and significant, it was of a smaller magnitude ($b = 0.14$, $p < 0.05$). Therefore, Hypothesis 4 was partially supported.

Discussion

Theoretical implications

Studying knowledge hiding in organizations is novel and undeniably difficult. Knowledge hiding ranges from small distortions of the truth to actions that result in irreparable errors, such as the environmental disaster described in the introduction to this study. By empirically exploring the consequences of knowledge hiding at the individual level, and from the knowledge hiding committers' perspective, our study extends the existing knowledge on knowledge hiding in organizational settings and offers a two-fold contribution.

Our first contribution lies in revealing mixed and even opposing effects of different facets of knowledge hiding on individual-level job performance. In particular, our results showed rationalized hiding being positively associated with innovative job performance. Next, while evasive hiding was negatively associated with in-role job performance, it was positively associated

with innovative job performance. Finally, playing dumb was positively associated with in-role job performance.

When engaging in rationalized hiding, an explanation is given for not providing the requested knowledge (Connelly *et al.,* 2012). In line with this reasoning, our findings show that rationalized hiding does not violate innovative performance and in fact leads to an increase therein. In contrast, when engaging in evasive hiding, only part of the requested knowledge is delivered (Connelly *et al.,* 2012). It may depict an employee as incompetent and not expert in their organizational role. Our findings reveal that evasive hiding is negatively associated with in-role job performance. At the same time, the finding that evasive hiding relates positively to innovative job performance is consistent with traditional agency theory, where individual actors may make self-interested decisions to deceive, based on short-term gains such as innovative job performance. Consequently, when engaging in evasive hiding, employees easily construct reasons to justify their actions in terms of increased innovative performance. Finally, playing dumb can be considered harmless (Connelly *et al.,* 2012); i.e. an employee may pretend to misunderstand the request and thus avoid delivery of the requested knowledge. Our findings follow this reasoning and show that playing dumb causes in-role performance to improve. Overall, these mixed and even opposing effects of different facets of knowledge hiding on individual-level job performance confirm the studies of Connelly *et al.* (2012), and Connelly and Zweig (2015), that knowledge hiding is a multidimensional construct, where different facets lead to different outcomes.

Our second contribution relates to distinguishing the role of employee well-being in the association between knowledge hiding and individual-level job performance. Our results revealed that employee well-being relates positively to innovative job performance, which supports the prior research on the positive parallel between employee well-being and performance (Wright and

Cropanzano, 2004; Wright and Bonett, 2007). Furthermore, rationalized hiding was found to relate negatively to employee well-being, which is in line with the prior research that engaging in rationalized hiding tends to make it evident that knowledge is being purposely hidden (Connelly *et al.*, 2012), which, in turn, relates negatively to employee well-being. In contrast, playing dumb was found to relate positively to employee well-being, which means that type of knowledge hiding is considered harmless (Connelly *et al.*, 2012). Finally, and most notably, even though the association between rationalized hiding and innovative job performance was positive, it was found to be of a smaller magnitude when employee well-being was taken into account. Hence, distress caused by engaging in rationalized hiding may produce negative emotional reactions in terms of decreased well-being, which, in turn, decelerates the positive association between rationalized hiding and innovative job performance. This finding means that the risk of being discovered when engaging in rationalized hiding produces a psychologically heavy burden for employees to bear. That leads to decreased well-being, which, in turn, decreases the overall positive association between rationalized hiding and innovative job performance.

Overall, our study highlights the paradox of managing organizational knowledge. In line with agency theory, we advocate that while knowledge sharing is one of the major assets of organizational welfare from the organizational perspective, it may resonate with the employee's perspective, according to which both rationalized and evasive hiding are acceptable behaviors that lead to short-term victories in the sense of enhanced innovative job performance. In a similar may, playing dumb is considered a harmless behavior that results in increased in-role job performance. Consequently, unless employees' self-interest and organizational interests are aligned, the paradox of managing organizational knowledge arises, and the classic agency problem occurs.

Practical implications

Organizational knowledge sharing is known to fuel organizational growth, and is an engine that enables businesses to flourish and grow in the economy. Yet, as organizations are constantly confronted with new challenges, they often encourage employees to compete with each other, which, in turn, encourages employees to hide knowledge. In order to boost their individual performance, act in their own self-interest, and cope with the social pressure of staying ahead of their peers, employees are at times motivated to breach their own ethical boundaries, to act in ways that resonate with their own ethical standards, and may choose knowledge hiding as a potentially valuable and relevant short-term strategy.

In order to reduce knowledge hiding behavior among employees and stimulate the unrestricted flow of knowledge, the very idea of forceful unhealthy competition as well as exploitative and workaholic cultures such as "24-7, 365-day work", "publish or perish", "up or out" cultures should be revised. Instead, organizations should promote an ethical work culture that cultivates employee trustworthiness and knowledge sharing. The implementation of a shared identity, nurturing a supportive organizational climate, and the initiation of frequent social interaction, may also help discourage knowledge hiding among employees. Furthermore, organizations should establish explicit norms regarding ethical and unethical employee behaviors, in order to strengthen employees' moral sensitivity and moral self-regulatory capacities, which may, in turn, reduce their motivation to engage in knowledge hiding.

Limitations and Future Research

A number of limitations need to be acknowledged. First, the study design is cross-sectional. In addition, the identification of knowledge hiding behavior and well-being was based on employees' own perceptions. Cross-sectional designs based on self-reporting are susceptible to CMV (Podsakoff *et al.,* 2003). However, we believe the capability of observers or informants such as

supervisors, peers and subordinates to make attributions regarding committers' knowledge hiding is also limited, since knowledge hiding is not particularly visible and does not attract much attention. Also, observers may misconstrue knowledge hoarding or a lack of knowledge sharing as knowledge hiding (Evans *et al.*, 2015; Jha and Varkkey, 2018).

In addition, since knowledge hiding is a sensitive topic and because participants were informed that the study would investigate knowledge sharing initiatives, our results are not exempt from a potential social desirability bias. Although this has not been controlled for in our study, its confidential design (e.g., Williams and McGonagle, 2016) and relatively high average score in knowledge hiding leads us believe that our results are interpretable. The generalizability of our findings is restricted because the survey was conducted in a single, highly competitive company, and the high performance among the respondents might be a result of its competitive strategic positioning. This could also explain the stronger than average Cronbach's alphas of the study's core constructs. Future research should study the examined associations in other industry and sector settings.

Several avenues for future research are recommended. Further studies might investigate the impact of contextual factors on knowledge hiding. Among others, control dynamics, power, and a fundamental question of choice may affect employee knowledge hiding behavior. For instance, low-ranking employees may be less likely to conceal knowledge as their authority for dishonesty is limited and sanctions straightforward. Alternatively, as discussed in the introduction, some BP employees may have concealed knowledge they possessed as they would otherwise face negative personal consequences. Next, the consequences of knowledge hiding may be different when in supervisor-subordinate (Connelly and Zweig, 2015) and service-client (Guenter *et al.*, 2014) relationships. Finally, multi-level longitudinal studies investigating the contradictory effect

of knowledge hiding on individual-, team-, and firm-level performance over time could motivate further debate and provide additional insights on the findings presented here, including potential bidirectional relationships between wellbeing and performance, and wellbeing and knowledge hiding.

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Table 1. Mean, standard deviation, correlations, and reliability.

	Mean	**STD**	**1.**	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**
1. Evasive hiding	4.97	0.79	0.90							
2. Playing dumb	4.97	0.88	0.46***	0.94						
3. Rationalized hiding	4.61	1.00	0.38***	0.39***	0.94					
4. Well-being	5.33	0.94	0.19***	0.22***	0.20***	0.96				
5. In-role performance	3.77	1.02	-0.11*	0.01	0.11*	0.06	0.97			
6. Innovative performance	5.01	0.81	0.45***	0.35***	0.47***	0.41***	0.02	0.97		
7. Age	4.77	0.74	-0.35***	-0.25***	-0.45***	-0.40***	-0.05	-0.70***	-	
8. Newcomer	39.65	7.93	0.32***	0.21***	0.26***	0.33***	-0.02	0.54***	-0.47***	-
9. Gender	0.34	0.48	-0.25***	-0.14**	-0.27***	-0.22***	-0.06	-0.36**	0.44***	-0.23***

Notes.

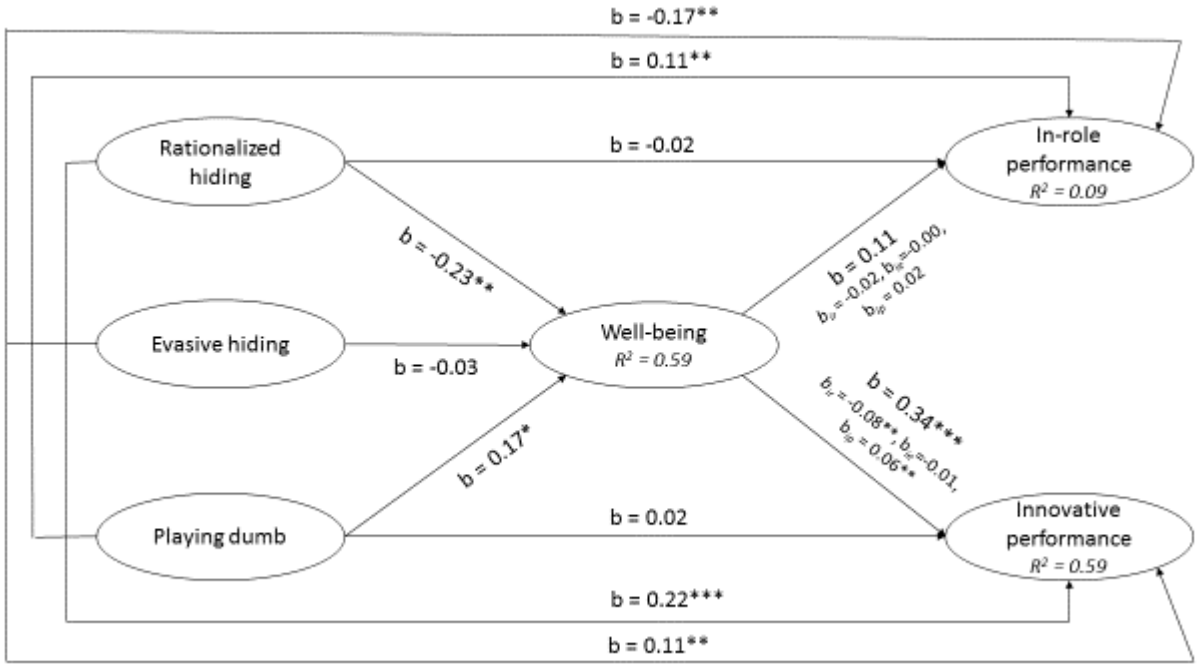
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 2. Structural model results.

Associations	Path	p	Mediation
Direct effect (DE): well-being → in-role performance	0.11	0.25	-
DE: well-being → innovative performance	0.34***	< 0.01	-
DE: evasive hiding (EH) → well-being	-0.03	0.75	-
DE: playing dumb (PD) → well-being	0.17*	0.08	-
DE: rationalized hiding (RH) → well-being	-0.23**	0.04	-
DE: EH → in-role performance	-0.17**	0.04	
Total effect (TE): EH → in-role performance	-0.18**	0.04	
Indirect effect (IE): EH → well-being→ in-role performance	-0.00	0.76	Direct only (non-mediation)
DE: EH → innovative performance	0.11**	0.05	
TE: EH → innovative performance	0.10*	0.07	
IE: EH → well-being→ innovative performance	-0.01	0.75	Direct only (non-mediation)
DE: PD → in-role performance	0.11**	0.05	
TE: PD → in-role performance	0.12**	0.03	
IE: PD → well-being→ in-role performance	0.02	0.34	Direct only (non-mediation)
DE: PD → innovative performance	0.02	0.79	
TE: PD → innovative performance	0.07	0.23	
IE: PD → well-being→ innovative performance	0.06*	0.10	Indirect only (mediation)
DE: RH → in-role performance	-0.02	0.92	
TE: RH → in-role performance	-0.03	0.75	
IE: RH → well-being→ in-role performance	-0.02	0.46	No effect (non-mediation)
DE: RH → innovative performance	0.22***	< 0.01	
TE: RH → innovative performance	0.14**	0.04	
IE: RH → well-being→ innovative performance	-0.08**	0.05	Competitive mediation (mediation)

Notes. Well-being equation ($R^2 = 0.59$), in-role performance ($R^2 = 0.09$), innovative performance ($R^2 = 0.56$). Mediation type following Zhao et al. (2005). * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Fig. 1 Structural equation modelling results (standardized values).



Note. b: direct effects. b_i: indirect effects. b_{ir}: rationalized hiding → well-being→ performance; b_{ie}: evasive hiding → well-being→ performance; b_{pe}: playing dumb → well-being→ performance. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.